[redacted]

OCTOBER TERM, 1897

IN THE

Supreme Court of the United States

LINCOLN GAS & ELECTRIC LIGHT COMPANY, APPELLANT,

VS.

THE CITY OF LINCOLN, NEBRASKA, ET AL. APPELLEES.

BRIEF OF APPELLEES

C. Perry Pepperell,
W. M. Morning,
Attorneys for Appellees.

E. C. Strode,
Chas. A. Tewksbury,
Attorneys for Appellees.

[redacted]

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II. ARGUMENT:

General Number 25574.

Term Number 300.

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STATEMENT OF CASE.

In the fall of 1906 the city council of the city of Lincoln, Nebraska, passed an ordinance reducing the price of gas from $1.20 to $1.00 per one thousand cubic feet. The ordi-

nance was to take effect December 1st, 1906. Complainant refused to comply with said ordinance and on the 27th day of December, 1906, filed its bill in the Circuit Court of the United States, in and for the District of Nebraska, against the city of Lincoln and its then mayor and city attorney, praying an injunction against the enforcement of said ordinance on the ground that the rate fixed was not compensatory and that the ordinance was therefore violative of the 14th Amendment to the Constitution of the United States. In its bill, as an incident to the main purpose, complainant also sought to restrain the enforcement of an ordinance of said city providing for an occupation tax of 2 1/2 per cent of its gross receipts from the sale of gas. This last mentioned ordinance has never been complied with by complainant, its excuse being the one set up in the bill in this case, namely, that it was discriminatory and void.

The cause was tried to the court without the aid of a master. The court found the occupation tax ordinance to be discriminatory and void and enjoined its enforcement, but held the gas rate ordinance valid. A restraining order had been issued against the enforcement of the gas rate ordinance at the commencement of the suit and this was ordered to remain in force, pending an appeal to this court by complainant, upon its execution of a bond with sureties approved by the clerk of the court conditioned for the repayment to gas consumers of the difference between the old rate and the new in the event the gas rate ordinance should finally be upheld. The bond was given and the appeal was perfected. The case was submitted to this court at the December term, 1911. This court reversed the judgment of the lower court and ordered the case remanded with directions to appoint a special master to take such additional evidence as the parties might wish to offer and to make

findings of fact and conclusions of law and for such other proceedings as a proper disposition of the case might require.

When the matter of the appointment of a Special Master came before District Judge W. H. Munger, the attorneys for the respective parties were called together, and the names of a number of eminent lawyers of the state were submitted to them, with the request that they endeavor to agree upon some one of the attorneys thus suggested. Without hesitation, Judge John J. Sullivan was selected, and duly appointed by the court. We are sure that counsel for the plaintiff will agree with us that Judge Sullivan is one of the ablest, and most eminent lawyers of our state. He is a lawyer of wide experience, and has the respect of the bench and bar of Nebraska, and is widely known throughout the state as a man of unquestioned legal ability and integrity. He was at one time associate justice and then chief justice of our supreme court. No one who knows Judge Sullivan and is acquainted with his history as a lawyer, as a district judge, and as a member of our supreme bench, will deny that any conclusion reached by him either upon a legal question or upon any question of fact based upon the consideration of conflicting evidence is entitled to very great weight.

Complainant excepted to substantially all of the findings of fact and conclusions of law contained in the master's report. The exceptions were heard before Federal District Judge Morris of Duluth, who overruled them so far as they related to the validity of the gas rate ordinance, but sustained them so far as they related to the occupation tax ordinance. It will be remembered that at the former trial Judge W. H. Munger held that the occupation tax ordinance was void, whereas the master in his report at the present trial held it valid and allowed the complainant to in-

clude such tax in its operating expenses notwithstanding it had never paid any tax under the ordinance and was then litigating it not only in this suit, but in the state courts. Judge Morris took the view of Judge Munger rather than that of the master and held against the occupation tax ordinance. A decree was entered upon the master's report dismissing the bill as to the gas rate ordinance. Complainant then applied for an order reinstating the restraining order pending an appeal to this court, which order was granted upon condition that complainant should file a bond with the clerk of the court in the sum of $575,000 conditioned for the repayment to gas consumers of the difference between the old rate and the new in the event the gas rate ordinance should finally be sustained. The bond was filed and approved and the appeal to this court was perfected. This court advanced the case for hearing at the October, 1917, term.

I.

LEGAL PROPOSITIONS INVOLVED.

1. Weight to be given the master's report.

We concede that the report of a master may be set aside by the court, modified or corrected in any manner not inconsistent with the justice of the case. This power, however, is not to be exercised except for good cause shown.

Jafrey v. *Brown*, 29 Fed. 477.
Carey v. *Lovell*, 31 Fed. 346.
National Folding Box Paper Co. v. *Dayton, etc.*, Co. 91 Fed. 824.

The report, so far as the facts are concerned, is given the effect of the verdict of a jury. We doubt if any case can be found where the master's report has not been followed where his findings were in favor of the rate complained of.

Gerard etc. Co. v. *Cooper, et al.*, 162 U. S. 529, 40 L. Ed. 1062.

Des Moines Water Co. v. *City of Des Moines*, 194 Fed. 557.

Crawford v. *Neal*, 144 U. S. 585, 36 L. Ed. 552.

Peter L. Kimberly v. *Chas. D. Arms, et al.*, 129 U. S. 512, 32 L. Ed. 764.

Emil Boesch, et al., v. *Albert Graff, et al.*, 133 U. S. 697, 33 L. Ed. 787.

John T. Davis, et al., v. *John H. Swartz, et al.*, 155 U. S. 631, 39 L. Ed. 289.

2. As to what items are usually included in "overhead cost."

Whitten, Valuation, etc., Sec. 240.

Foster, Engineering Valuation, etc., p. 17.

3. That "straight line" method of depreciation is the one most commonly employed.

Hayes, Pub. Utilities, secs. 139 and 162.

Foster, Eng. Val., p. 20-21.

4. That actual records and figures should be produced as to overhead costs, rather than to rely on opinions and theories of engineers.

Whitten, Sec. 240.

Cumberland Telegraph & Tel. Co. v. *City of Louisville*, 187 Fed. 637.

5. "Working capital equals average monthly payroll and average monthly vouchers."

Foster, Eng. Val., p. 22.

6. That such value as inheres in the physical property because it is connected up with an established business may be included and is presumed to have been included by the witnesses on value.

Des Moines Gas. Co. v. *Des Moines*, 238 U. S. 153, 59 L. Ed. 1244.

Cumberland Tel. & Tel. Co. v. *City of Louisville*, 187 Fed. 637.

Cedar Rapids Gas Light Co. v. *Cedar Rapids*, 223 U. S. 655, 56 L. Ed. 594.

7. Going value in the sense of business value not a proper element to be included as an asset in a rate case.

Minnesota Rate Cases, 230 U. S. 352, 57 L. Ed. 1511.

8. Going value allowed in Omaha water case was business value such as described by Mr. Lea. The Omaha case recognizes a distinction between a rate case and a condemnation case in respect to going value.

Omaha v. *Water Co.*, 218 U. S. 180, 53 L. Ed. 991.

9. That paving over mains should be excluded.

People v. *Wilcox*, 104 N. E. 911.

Des Moines Gas Co. v. *Des Moines*, 238 U. S. 153, 59 L. Ed. 1244.

10. That the unused real estate and equipment should be excluded.

Cedar Rapids Gas Light Co. v. *Cedar Rapids*, 120 N. W. 966, 138 A. S. R. 299.

Spring Valley Water Co. v. *San Francisco*, 165 Fed. 667.

Pietee v. *Brooklyn, etc., Co.*, Pub. Utility Rep. 1915A, p. 46.

11. Failure to produce the Sloan and Huddle report creates a presumption that it would have been unfavorable to plaintiff's case.

Jones on Evidence, Sec. 19.

Fonda v. *St. Paul City Ry. Co.*, 70 A. S. R. 341.
Barnes v. *Shreveport City R. R. Co.*, 47 A. S. R. 400.
Star Mills v. *Bailey*, 140 A. S. R. 370.

12. That Mr. Adams was right in estimating what it would cost to construct modern out-of-doors purifying boxes rather than the present ones.

Cedar Rapids Gas Light Co. v. *Cedar Rapids*, 138 A. S. R. 299, (308).

13. That the Company cannot demand rates high enough to make up for past blunders and bad management resulting in failure to provide for accrued depreciation.

Knoxville v. *Knoxville Water Co.*, 212 U. S. 1, 53 L. Sd. 371.

14. Duty of plaintiff to make a full, fair and complete showing of its operating expense and to establish that they are necessary and reasonable.

State v. *Adams Express Co.*, (Neb.) 122 N. W. 691.
Chicago & Grand T. R. Co. v. *Wellman*, 143 U. S. 339, 36 L. Ed. 176.

15. Section of Nebraska statutes giving Lincoln city council power to regulate gas rates.

Revised Statutes 1913, Sec. 4476.

16. In all cases of joint use of property, or joint expense of the two departments, the burden is on the Company to show that correct division has been made. Also to show to what extent renewals and extensions have been made from current receipts and charged to operating expense.

Railway Commission v. *Cumberland Tel. & Tel. Co.*, 212 U. S. 414, 53 L. Ed. 577.

17. Rate may be unreasonable yet not confiscatory.

San Diego L. & T. Co. v. *Jasper,* 189 U. S. 439, 47 L. Ed. 892.

Southern Pac. Co. v. *Bartine,* 170 Fed. 725.

18. That extensive replacements, such as the rebuilding of the benches and the station meter, should be spread over a period of time equal to the life of such improvements has been settled by this court, in Illinois Cent. R. Co. v. Interstate Commerce Com., 206 U. S. 441, 51 L. Ed. 1128, where the rule is stated thus:

> "Expenditures for permanent improvements and equipment should not be charged to current or operating expenses of a single year for the purpose of testing the reasonableness of an increased freight rate."

19. It is the duty of a public service corporation to provide its own funds to take care of new construction and all permanent improvements, and these should not be charged to operating expenses.

Illinois Cent. R. Co. v. *Interstate Commerce Com.,* 206 U. S. 441, 51 L. Ed. 1128.

Wyman Pub. Service Corp., Sec. 1163.

20. Where items of this character have been paid for from current receipts and charged to operating expense, they should be excluded from consideration in estimating the value of the property upon which the Company is entitled to earn dividends, or excluded from the operating expenses of a single year.

San Diego Water Co. v. *San Diego,* 118 Cal. 556 (574), 62 A. S. R. 261 (275).

Illinois Cent. R. Co. v. *Interstate Commerce Com.,* 206 U. S. 441, 51 L. Ed. 1128.

21. As to the matter of meter connections and service pipes, these are paid for by the consumers and do not represent an outlay by the Company at all. It is charged to operating expenses in the

first instance and then collected from the customer (Honeywell, bottom p. 151, Vol. 1), and under no view of the matter can this item be included for any amount.

San Diego Water Co. v. *San Diego,* 118 Cal. 556, 62 A. S. R. 261, (275).

See, also, *Smyth* v. *Ames,* 169 U. S. 466, 42 L. Ed. 819.

22. Capitalization as Evidence of Present Value.

In *Knoxville* v. *Knoxville Water Co.,* 212 U. S. 1, 53 L. Ed. 371, the weight to be given to nominal capitalization, in an inquiry as to the value of the tangible property of a corporation, where the same is largely fictitious, was stated in the third paragraph of the syllabus, thus:

> "Capitalization affords no guide to the present value of the tangible property of a waterworks company which is objecting to the rates fixed by municipal ordinance as confiscatory, where substantially all the common and preferred stock was issued under construction contracts entered into with persons who controlled the corporate action, and was greatly in excess of the true value of the property furnished under the contracts."

See, also, *Smyth* v. *Ames,* 169 U. S. 466, 42 L. Ed. 819.

A public service corporation, regardless of the amount of its stocks and bonds, is only entitled to a fair return on the value of the property at the time used for the convenience of the public. When this return has been received by the corporation, it becomes the property of the corporation to be applied to interest upon bonds and the balance distributed in dividends. If the net income is not sufficient to pay the interest on bonds, then it is the misfortune of the bondholders and not of the public. If there is only enough of a net income to pay interest on bonds, and nothing is left for dividends, this is a misfortune of

the stockholders. This matter is well stated by Judge Garoutte in *San Diego Water Company* v. *City of San Diego,* 118 Cal. 556, 62 A. S. R. 261, in the following language:

> "But as to the amount of the bonded indebtedness, or the amount of interest annually accruing thereon, we fail to see their materiality in determining the value of the plant, or the sum total of revenue to be raised from the sales of water. It is not a question in which rate payers are concerned, whether the water company has no outstanding indebtedness, or is floundering under a bonded debt which threatens to sink it at any moment. If the municipality is required to establish a scale of rates which will produce a revenue sufficient to pay interest upon outstanding bonds, this provision of the constitution would not only be a perpetual guaranty to the bondholders for the payment of their annual interest, but a constant incentive to additional issues of bonds. Such conditions were never contemplated by anybody. It is the duty of the municipality, when it has arrived at a determination as to the valuation of the plant, to determine the necessary outlay for the ensuing year; then to determine what would be a reasonable, just, and fair compensation to the company, based upon the valuation of the plant, and thereupon to fix a schedule of rates which will produce that sum of money. If there be outstanding bonds, the company may apply its income to the payment of interest thereon. If there be no outstanding bonds, this income may pass to the pockets of the stockholders in the shape of dividends declared. A municipality must fix a fair and just rate for the water, based upon the valuation of the plant, and when it has done this, its duty has been performed, and the revenue collected under such rates is the property of the company, to do with as it seems best."

The public should only be required to pay a fair and reasonable return upon the present reasonable value of the Company's property used at the time for the convenience of the public, and can not be required to provide,

in addition thereto, for the payment of interest upon bonded or other debts; *and the rate should be the same whether the works are acquired or constructed by the Company from its own resources, or with money borrowed from others.*

See, *Redlands, etc., Water Co.* v. *Redlands,* (Cal.) 53 Pac. 843, 844.

23. Probable Effect of New Rate.

It is quite probable that the effect of the reduced rate would somewhat reduce the earnings of the Company during the first year, but all experience shows and this court has recognized in many cases that the probable effect of a reduced rate on such commodities as gas would be to greatly increase the consumption without a corresponding increase of expense, and that in time the increased consumption of gas, resulting from the reduced rate, would be sufficient to more than overcome the amount of the reduction.

See testimony of Professor Bemis in relation to this subject (pp. 229-30 vol. 1, printed record).

As Mr. Honeywell testified, the Company voluntarily reduced the rate from $1.35 net, after allowing discount for prompt payment, or $1.50 without the discount, to $1.20 per thousand (pp. 173-77, printed record). It will be seen that the net rate for gas from July, 1900, to June, 1904, was $1.50 for light and $1.25 for fuel, and from the latter date the net rate has been $1.20 for both.

The following table (Exhibit "122," p. 304, vol. 1, printed record) shows that, notwithstanding said reduction, the net earnings very greatly increased:

Year	Cubic feet of gas sold	Average net price per-1000	Gross gas earnings	Operating expense	Net earnings
1902	75,680,800	$1.3833	$104,766.66	$ 74,164.96	$30,601.70
1903	98,343,300	1.3664	134,471.06	81,582.79	52,888.27
1904	117,429,858	1.3015	152,846.15	101,472.85	51,373.30
1905	143,690,700	1.2086	173,619.03	105,421.95	68,197.08
1906	153,663,600	1.2090	185,778.26	127,049.24	58,729.02
1907	179,366,300	1.2031	215,776.20	141,924.37	73,851.83

Judge W. H. Munger, in his opinion in the case at bar at the first trial (Vol. 1, p. 24, Printed Record), referred to this matter in the following language:

> "The record shows that in June, 1904, complainant voluntarily reduced its rates from approximately $1.50 per thousand to $1.20, and the amount of gas consumed and net profits resulting considerably increased. The inquiry in cases of this character is not alone what has complainant theretofore earned, but it is what will be the effect of the ordinance reducing the rate upon the future net earnings of the company, and it devolves upon complainant to show, not that the past rates have not produced a reasonable return, but that the rate prescribed by the ordinance will not in the future produce a reasonable return."

In *Wilcox* v. *Consolidated Gas Co., supra*, this court, at page 51 of the opinion, recognized the strong probability that the earnings would increase under the reduced rate as a factor to be considered.

24. No allowance can be made for commission on sale of bonds, nor can bond interest nor cost of paying it be charged to operation.

> "No distinction can be made between corporations which have completed their works with their own money and those which have borrowed money for that purpose from others. In either case, the money actually and reasonably invested is the basic criterion of the revenue to be allowed."
>
> *San Diego Water Co.* v. *San Diego,* 118 Cal. 556, 62 A. S. R. 261.

25. The rate fixed by this ordinance not having been put to a practical test, but having been suspended by this injunction, the ordinance will be upheld unless the case is one leaving no just or fair doubt that the rate, if enforced, would be confiscatory.

Wilcox v. *Consolidated Gas Co.*, 212 U. S. 19, 53 L. Ed. 382.

Knoxville v. *Knoxville Water Co.,* 212 U. S. 1, 53 L. Ed. 371.

Ex Parte Young, 209 U. S.. 123, 52 L. Ed. 714.
San Diego L. & T. Co. v. *Jasper,* 189 U. S. 439, 47 L. Ed. 892.

26. "What the company is entitled to ask is a fair return upon the value of that which it employs for the public convenience. On the other hand, what the public is entitled to demand is that no more be exacted from it for the use of a public highway than the services rendered by it are reasonably worth."

Smyth v. *Ames,* 169 U. S. 466, 42 L. Ed. 819.

"What the company is entitled to demand, in order that it may have just compensation, is a fair return upon the reasonable value of the property at the time it is being used for the public. The property may have cost more than it ought to have cost, and its outstanding bonds for money borrowed and which went into the plant may be in excess of the real value of the property. So that it cannot be said that the amount of such bonds should in every case control the question of rates, although it may be an element in the inquiry as to what is, all the circumstances considered, just, both to the company and to the public."

The San Diego Land & Town Co. v. *National City,* 174 U. S. 739, 43 L. Ed. 1154.

27. In the opinion handed down by the lower court, in San Diego L. & T. Co. v. National City, 74 Fed., on pp. 87, 88, the court said:

"Nor can it make any difference that the complainant in the construction of its plant and the carrying on of its work borrowed $300,000, on which it pays interest and for which, it may be, it issued its bonds. The buyer of such bonds, like the loaner of money on mortgages on real estate, does so with his eyes open. The loaner of money on a mortgage knows that conditions may be such as to increase the value of his security, or they may be such as to decrease its value. He takes the chances that everybody must take who engages in business transactions. The buyer of bonds issued by a water company, such as the complainant, has the like knowledge and the further knowledge that

the law, which every one is presumed to know, prescribes that the rates to be charged for the water furnished by the company, shall be established and fixed by a special tribunal."

In *Smith* v. *Ames, supra*, Mr. Justice Harlan, relative to the same subject, says:

> "If a railroad corporation has bonded its property for an amount exceeding its fair value, or if its capitalization is largely fictitious, it may not impose upon the public the burden of such increased rates as may be required for the purpose of realizing profits upon such excessive valuation or fictitious capitalization."

In *re Grain Shippers* v. *Railroad Co.*, 8 I. C. C. Rep. 158, it is said:

> "Whatever of wastefulness or mismanagement there may have been in the construction or antecedent history of the railroad, whatever of jobbery or of thievery even, it is apt to find its way into the capital account, until it is eliminated by some process of reorganization, and in the reorganization itself the capitalization has no relation ordinarily to the actual value of the property, but it is made to depend upon the convenience or even the whim of those who manipulate the reorganization scheme. To make the capital account of our railroads the measure of their legitimate earnings, or a rule, would place the corporation which has been honestly managed from the outset under enormous disadvantages.'

28. In the recent case of City of Louisville v. Cumberland Telephone & Telegraph Co., 225 U. S. 430, 56 L. Ed. 1151, the lower court had granted an injunction against a new telephone rate because it found that the new rate would reduce the income of the Company to 3.6 per cent on its investment as found by him. This court disagreed with the lower court as to some items of valuation, and reversed the judgment of the lower court, using the following language:

> "We express no opinion whether to cut this telephone company down to 6 per cent by legislation would or would not be confiscatory. But when it is remem-

bered what clear evidence the court requires before it declares legislation otherwise valid void on this ground, and when it is considered how speculative every figure is that we have set down with delusive exactness, we are of opinion that the result is too near the dividing line not to make actual experiment necessary. The master thought that the probable net income for the year that would suffer the greatest decrease would be 8.60 per cent on the values established by him. The judge, on assumptions to which we have stated our disagreement, makes the present earnings 5 10/17 per cent, with a reduction by the ordinance to 3 6/17 per cent. The whole question is too much in the air for us to feel authorized to let the injunction stand. Decree reversed without prejudice."

29. The master was not bound to follow the expert testimony; he had the right, and it was his duty, to fix values in the light of all the evidence before him, tested by his own experience, at such figure as his best judgment dictated.

Head v. *Hargrave*, 105 U. S. 45, 26 L. Ed. 1028.

Whitney v. *City of New Orleans*, 54 Fed. 617.

The Conqueror, 166 U. S. 132, 41 L. Ed. 947.

Chicago, etc., Ry. Co. v. *Drake*, 46 Kan. 569, 26 Pac. 1039.

Grand Rapids, etc., Ry. Co. v. *Chesebro*, 74 Mich. 478, 42 N. W. 70.

Laflin v. *Chicago, etc., Ry. Co.*, 33 Fed. 422.

Johnson v. *Burlington, etc., Ry. Co.*, 37 Minn. 521, 35 N. W. 439.

Lincoln Land Co. v. *Phelps*, 80 Neb. 820.

Forsyth v. *Doolittle*, 120 U. S. 73, 30 L. Ed. 586.

Davis v. *School District*, 84 Neb. 859.

Hull v. *City of St. Louis*, 138 Mo. 618.

Jones & Williams v. *Fitzpatrick*, 47 S. C. 40.

30. The Master's failure to Furnish a Summary of the Evidence.

In his preliminary observations, beginning on page 36, vol. 1, of printed record, the master explains that a summarization of the evidence is quite impossible and would, in his opinion, be of no assistance to court or counsel. It is to be remembered that there was a very large number of witnesses produced and the testimony at the last hearing amounts to almost five thousand pages of typewriting, to say nothing of the very great number of exhibits and tabulations. To summarize this evidence would be impossible, and any attempt to do so would require weeks, if not months of labor. The master did the only practical thing under the circumstances to make his findings with respect to small subdivisions and to cite evidence, and give his reasons, only when necessary, to make clear his actual findings. The master certifies all of the evidence and filed the same with his report and that is the best that could be done in the premises. The order of reference did not require the master to summarize the evidence, and in the absence of such an order it was not necessary for him to do so.

> "The evidence, however, need not be stated or incorporated in the report, nor generally even the facts themselves."
>
> 34 *Cyc.* 846.
>
> "Except where so required by the order of reference, or where so required by the provisions of the statute, controlling the reference, the referee in making his report of the proceedings, had, under the rule, or order of reference, is not required to, and should not report the evidence."
>
> 34 *Cyc.* 843, and cases cited.
>
> *Welsh* v. *Briggs*, (Mass.) 90 N. E. 1146.
>
> "According to the practice, it would not have been proper for the master to report the entire evidence before him, as there was no order from the court to

that effect, nor to report even such portions of the evidence as related to the exceptions, without a request from the party excepting."

Massie W. T. Co. v. *Enterprise Tr. Co.*, 175 Fed. 6 (10)

"A master's report need only state (1) the ultimate facts, by reference to the pleadings, or otherwise, (2), his conclusions on the questions of law without discussion or argument and (3) make computation of the amount due."

Manowsky v. *Stephen*, (Ill.) 84 N. E. 354.

31. As to the Qualifications of Alton D. Adams to Testify as an Expert.

We quote the following from *Jones on Evidence*, (2nd Ed.), Sec. 368:

"It now becomes necessary to discuss at some length the conditions under which expert testimony may be given. While it is clear that the witness in order to be competent as an expert must show himself to be skilled in the business or profession to which the subject relates, there is no precise rule as to the mode in which such skill or experience must be acquired. Thus, the witness may have become qualified by actual experience or long observation without having made a study of the subject. *On the other hand he may be an expert although his knowledge has been derived from the study of the subject, and not from actual experience or practice in the business or profession.* Thus, it has sometimes been held that a physician may give opinions as to matters connected with his profession or with medical science, although in his own practice he may not have had experience as to such matters, and although his knowledge in respect thereto is derived from study only, even though he may not have made the disease under inquiry a specialty. On the same principle one who is familiar with the diseases of man may be allowed to testify as an expert concerning the disease of animals. The law of a foreign country or sister state may be proved not only by jurists and lawyers who have practiced their profession in that jurisdic-

> tion, but also by those not lawyers who, from their official position or business relations, have become acquainted with such laws. Courts will take notice that certain pursuits are so intimately connected with others as to give those following one of such pursuits unusual facilities for becoming acquainted with the other; and if the occupation and experience of the witness have been such as to give him the requisite means of knowledge of the subject, he may be competent as an expert, although engaged in some other occupation or even if he has abandoned the business to which the inquiry relates. It is necessary that the witness should possess the requisite skill either from actual study, experience or observation. The mere opportunity of obtaining such skill does not suffice.'

Numerous citations are given in the foot notes in support of the above quoted text, from which it will be seen that the Wisconsin cases, upon which counsel for the Company rely, are not in line with the holdings of other courts.

See also:

Scott v. *Astoria R. R. Co.*, (Or.) 72 Pac. 594, 99 A. S. R. 710, where the Wisconsin cases are disapproved.

German Life Ins. Co. v. *Lewin*, (Colo.) 51 Pac. 488, 65 A. S. R. 215.

People v. *Thacker*, 108 Mich. 652, 66 N. W. 562.

Boswell v. *State*, 114 Ga. 40, 39 S. E. 897.

Isenhour v. *State*, 157 Ind. 517, 63 N. E. 40, 87 A. S. R. 228.

Howard v. *Great Western Ins. Co.*, 109 Mass. 384.

Costner v. *Slicker*, 33 N. J. L. 95 (107).

Hamond v. *Wood*, 66 A. D. 234 (note).

Gonzales College v. *McHugh*, 21 Tex. 256.

In *Central Ry. Co.* v. *Mitchell*, 63 Ga. 173, it was held that the opinion of a civil engineer derived solely from books was properly admitted.

The true rule is stated by the Indiana supreme court in *Isenhour* v. *State*, 62 N. E. 40, 87 A. S. R. 228, as follows:

> "If a witness exhibits such knowledge, gained from experiments, observation, standard books, or other reliable source, as to make it appear that his opinion is of some value, he is entitled to testify, leaving to the court, in its discretion, to say when such knowledge is shown, and to the jury what the opinion is worth."

32. Failure of Master to Find and Certify Reproduction Cost, Age, Etc., of Separate Items in Works Equipment and Distributing System.

It was not necessary that the master should include any of these matters in his findings. He was only required to find the present value of complainant's property, and each and all of said matters were but steps or processes leading to the final result. The plaintiff is entitled to a reasonable return upon the reasonable present value of its property, and that was the value found by the master. According to all authorities, the cost of reproduction, original cost, and market value are not the sole tests, but are matters to be considered in arriving at the fair present value. In the Minnesota rate case, 230 U. S. 352, 57 L. Ed. 1511, Mr. Justice Hughes quotes with approval the following from *Smyth* v. *Ames:*

> "In order to ascertain that value, the original cost of construction, the amount expended in permanent improvements, the amount and market value of its bonds and stock, the present as compared with the original cost of construction, the probable earning capacity of the property under particular rates prescribed by statute, and the sum required to meet operating expenses are all matters for consideration, and are to be given such weight as may be just and right in each case. We do not say that there may not be other matters to be regarded in estimating the value of the property. What the company is entitled to ask is a fair return upon the value of that which it employs for the public convenience."

The master expressly states in his report that he considered all of these matters in arriving at the present value of the plant. The master was not required to state the mental processes by which he arrived at his results, nor to give reason for any of his findings of fact.

> "Where, by order of reference the whole issues are referred, the referee is substituted for the court. The trial is to be conducted in the same manner as a trial by the court, and the referee's report stands as the decision of the court. His findings should contain just what the findings of the court should contain, nothing more and nothing less. Like the court, he is not required to find upon any other facts than those necessary to cover the issues in the case, and which enter into and form the basis of the judgment to be rendered upon his report. He is required to find upon the issues only, and not to report the evidence, or to explain the means or process by which he arrives at his conclusions."
>
> *Landell* v. *Cheney*, (Minn.) 52 N. W. 819 (919).

33. **Franchise.**

Neither the question as to whether plaintiff's franchise is valid nor as to whether it is or is not perpetual is involved here.

> "Whether such franchise was acquired or is held rightfully, is to be determined only in a direct proceeding to oust the corporation, or in a proceeding to which someone who claims a better title is a party."
>
> *Bronson* v. *Albion Telephone Co.*, (Neb.) 93 N. W. 201.

Judge W. H. Munger, at the former trial of this case, excluded franchise as an element of value in appraising plaintiff's property for rate purposes. His reasons for so doing are thus stated in the opinion:

> "I do not allow anything as the value of complainant franchise. It does not appear from the allegations of the bill or proofs that anything was paid for the franchise. The City simply granted to complainant,

without compensation, the right to use the public streets and alleys for the purpose of constructing and operating its plant. This was a mere right and privilege to complainant, and did not involve the expenditure of money. While it is true a franchise is a property right, which will protect complainant in its use of the streets and alleys for the purpose expressed, yet it involves no investment of money, complainant's investment being in its tangible property under authority of the franchise, and the public ought not to be taxed for a privilege which it has voluntarily granted. I do not think there is anything in the case of *Wilcox* v. *Consolidated Gas Co.*, 129 Sup. Ct. Rep. 192, which conflicts with this view. In that case the legislative enactment providing for consolidation of various companies expressly required that a value should be given to the franchise of the respective companies. For that reason the court sustained the value of the franchise thus fixed, but refused to recognize any increased value accruing during subsequent years by reason of the large increase in the tangible property from extensions, etc."

It is conceded that special franchises, such as this, partake of the nature of, and are regarded as property by the courts. Whatever value such a franchise has is based upon the earning power of the Company, and it has no value which can be estimated separate and apart from such earning power. We have not been able to discover that this court has ever passed upon the exact point here raised, viz., whether, in estimating the capital of a public service comporation for the purpose of fixing a basis for testing the validity of established rates, a separate valuation may be placed upon the special franchise separate and apart from the value of its tangible property, and included in the sum upon which the corporation is entitled to earn dividends.

In the case of *Wilcox* v. *Consolidated Gas Co.*, 212 U. S. 19, 53 L. Ed. 382, the company was allowed the value of the franchises of the several companies which were consolidated, the value allowed being that fixed by them at the time of the consolidation in 1884, under legislative authority,

and which entered into the new capitalization. The increase found by the lower court was rejected, but this, as we read the opinion, was upon the ground that the amount of the increased value was not properly arrived at. We are, therefore, left in doubt as to what this court would have done had the lower court had competent evidence before it as to the value of the franchise and had based its findings thereon.

The learned district judge who tried the Wilcox case below stated that his personal convictions were against placing any value upon such franchises in considering the compensatory character of rates, but felt constrained to follow the reasoning of former adjudications in which such franchises were recognized as property. His personal views were stated in this language:

> "For these reasons I believe that, on principle, a franchise should be held to have no value except that arising from its use as a shield to protect those investing their property upon the faith thereof, and that, considered alone and apart from the property which it renders fruitful, it possesses no more economic value than does an actual shield possess fighting value, apart from the soldier who bears it."

In *Wyman on Public Service Corporations*, the matter of franchise valuation is discussed in the light of the most recent authorities. The author lays down the rule that the value of the franchise should not be considered in regulating rates.

Section 1104 of that work reads as follows:

> "It should be clear that in estimating the capital upon which a public service company is entitled to a fair return the value of a franchise enjoyed by the company cannot be considered. The value of the franchise is based upon the capacity of the company to earn profits; and it becomes greater when the earnings of the company are increased. If, therefore, a high rate

of income could be justified on account of the great value of the franchise, this fact would in turn enhance the value of the franchise itself and so justify a still higher charge; and there would be no limit to the legal charge to the company which could be enforced should such franchise value be permitted to increase in this way, the capital charges. As Mr. Justice Savage in a late Maine case involving this point: 'In connection it should be noted that to say that the reasonableness of rates depends upon the rates which may be reasonably charged, seems to be arguing in a circle. If we should say that reasonableness of rates depended solely upon the value of the property, and that the value of the property depended solely upon the rates which may be reasonably charged, such would be the case. But neither proposition is true.' It unquestionably follows that such franchise values can not stand in the way of rate regulation. As Mr. Justice Peckham recently said in the supreme court of the United States, as to a valuation of the property of the Consolidated Gas Company, which included some millions for its franchises: 'Its past value was founded upon the opportunity of obtaining these enormous and excessive returns upon the property of the company, without legislative interference with the price for the supply of gas, but that immunity for the future was, of course, uncertain and the moment it ceased and the legislature reduced the earnings to a reasonable sum the great value of the franchise would be at once and unfavorably affected.'"

The language of Mr. Justice Hughes in the Minnesota rate case (230 U. S. 352, 57 L. Ed. 1511), in dealing with another matter, is quite applicable here, and is in accord with the doctrine of *Wyman on Public Service Corporations*, above quoted. On page 461 of the opinion Mr. Justice Hughes said:

"The value of the use, as measured by return, cannot be made the criterion when the return itself is in question. If the return, as formerly allowed, be taken as the basis, then the validity of the states' reduction would have to be tested by the very rates which the state denounced as exhorbitant. And, if the return as

> permitted under the new rates be taken, then the state's action itself reduces the amount of value upon which the fairness of the return is to be computed."

It seems to us that the rule should be that franchises of this character should be treated as property only to the extent necessary to protect the holder in the exercise of the rights granted therein, and upon the faith of which the company has expended its funds; but where the franchise is a mere voluntary grant by the public, for which no money has been paid, and where the Company has nothing invested therein, that no value should be placed thereon as an element in determining the compensatory character of rates. The Company has no actual investment in the franchise, and why should it be permitted to demand a return from the public upon a mere right to occupy the public streets which the public has gratuitously granted?

The Company's expert, Henry I. Lea, at the present trial gave it as his emphatic opinion that there is no franchise value to be included here.

He says (p. 1295, vol. 4, printed record):

> "There isn't any franchise value. Whether the Company has a franchise or not there is no value to the franchise that should be included in determining the value of the property as a whole, unless the Company has actually paid a specific sum for a franchise, and I know of no such payment having been made here for a franchise."

34. Organization Expense Cannot Be Capitalized.

There was no evidence whatever as to what, if any, expense was incurred in the organization of this company. The present company can have no claim for the expenses of organizing the original company in any event. For aught that appears in the evidence the initial cost of organizing the present company as well as its predecessor

may have been repaid long ago in the form of excessive earnings. At all events, the master included all such items in his overhead cost. This was in harmony with the usual practice of courts and commissions.

> *Whitten on Valuation of Public Service Corporations,* Sec. 262.

The cost of organizing the Company was not a proper capital charge.

> "Nothing can be allowed for the promotion and organization of the company, for it is immaterial by whom the plant may be owned in estimating its value."
>
> *Cedar Rapids Gas Light Co.* v. *Cedar Rapids,* (Ia.) 120 N. W. 966, 138 A. S. R. 299.

II.

ARGUMENT.

1. General Observations.

The testimony taken at the first trial of this case consisted of one large volume of printed matter containing 580 pages. The testimony taken at the last trial consisted of four large volumes of typewritten matter, amounting to almost five thousand pages, and in addition to this there were over four hundred exhibits, consisting of intricate and complicated tabulations by experts, maps, charts, blue prints, letters, telegrams, photographs, and various other documents. There were forty-eight witnesses sworn and examined and the master, Judge Sullivan, heard this testimony when it was introduced, saw the witnesses while on the stand, heard the explanations of the various tables and documents introduced, and heard the experts and the attorneys propound and explain their different theories as the case progressed. The taking of testimony continued at intervals for a little over one year. After the evidence was closed, counsel for

the respective parties spent weeks in digesting the evidence and preparing and printing briefs. There was an oral argument before the master which consumed four full days. After the submission of the case, the master took this enormous record consisting of the evidence taken at both trials, together with the briefs submitted, and, after several weeks of hard labor on his part, produced and filed the report now under consideration.

On nearly every question of fact involved in this case the evidence widely differed and was sharply conflicting, especially as to all property values and as to what should be allowed as legitimate operating expenses.

In later portions of this brief we shall undertake to show that the master was more than liberal with complainant, not only as to values, but as to its operating expenses. We shall point out large items of property which he valued as a part of the property upon which he estimated complainant's rate of return under the ordinance in question, which are neither used nor useful as part of complainant's gas plant. We shall show, also, that in the matter of operating expenses the master allowed numerous substantial items which should have been excluded.

The valuation placed by the master on practically all of complainant's property, though somewhat lower than that assigned to it by the company, is substantially higher than the valuations made by the witnesses for the city.

2. The Master's Valuation of Complainant's Property, as of January 1, 1913.

In that part of the master's report at page 52 of the printed record under the caption "Revision" will be found not only his valuation of the property as of January 1st, 1913, but

also his deductions as to complainant's rate of return under the $1 rate for the year 1912. His valuation was as follows:

Real estate	$ 16,250
Buildings	29,381
Works equipment	179,310
Distribution system	351,624
Working capital	60,000
Going value	40,000
Master's total value as of Jan. 1, 1913	$676,565

It will be seen by reference to the above cited page of the record, that the master found that, with gas selling at $1.00, as fixed by the ordinance, complainant's gross receipts would have been $227,297, and that the legitimate operating expenses would have been $180,639, leaving the net income for 1912 at $46,658, or 6.9 per cent on the valuation fixed by the master.

It will appear by reference to the first sentence of the master, under the caption "Revision," that he allows an item of $8,195 occupation tax as a part of the operating expenses for the year 1912. We contended before the master, and in the lower court, that this was not a proper item as it was not being paid by the company, but was being contested in the state courts. Since the trial below the Nebraska supreme court sustained the complainant's plea in abatement and suspended action in the state courts to collect the occupation tax under an ordinance passed subsequent to the one involved in the first trial, holding that the validity of this second ordinance was necessarily involved, and was being litigated in this "Dollar Gas" suit in the federal courts.

The burden being upon complainant to show that the rate fixed by the ordinance is confiscatory, it cannot aid itself in its contention by including, as an item of operating expense,

an occupation tax which it is disputing and refusing to pay, and payment of which it is resisting in the courts. It is not sufficient for the company to show that it *may* be required to pay this occupation tax. It has assaulted this rate ordinance and one of the vital elements involved here is the legitimate and *actual* operating expense of the company and not what they *may* be. A similar question was presented and decided in *San Diego Water Co.* v. *City of San Diego*, 118 Cal. 556, 62 A. S. R. 261-275. We quote from the opinion on page 275, of the last cited publication:

> "The finding that the expenses of the company for the year in question were $40,000 is also attacked. The books of the company put the amount at $44,255.30. Of this amount, appellant objects to items of about $5,000 as unnecessary and improper, and objects particularly to an item of $12,800, being an unpaid bill which is disputed by plaintiff, and on which its liability is left doubtful. Counsel for respondents have not attempted to answer these points. As the evidence is presented to us in an unsatisfactory shape, we will say no more than that it does not support the finding. Whether all of the items complained of are proper or improper cannot be determined upon this record, but some of them are not shown to be proper."

If we eliminate this occupation tax of $8,195 and add it back to the receipts for the year 1912 the net receipts as per the master would be $54,853, which would be over 8 per cent upon the valuation fixed by the master.

The master's valuation also included a working capital of $60,000, which is almost four times the working capital actually used by the company, as we shall hereinafter point out, and an item of $40,000 going value, which we contend was improper.

3. The Master's Figures for the Crucial Year, 1907.

At page 52 of the printed record, under the heading "Valuation, Operating Expense and Net Income for 1907," will be found the master's valuation and conclusions as to net income for the year 1907. That is the crucial year for the purposes of this suit. The operations of years subsequent to that time are important only as they bear upon the validity of the rate when it was to go into effect. Fortunately for the city, the company was unable by its manipulation of operating expenses, and its unwarranted and unnecessary additions to its plant, far in excess of present demands, to make a showing for the years during which this suit has been pending that would in any way indicate that this dollar rate would operate to confiscate its property. The showing most favorable to the complainant is the one made for the year 1907.

The master arrives at his valuation for 1907 by deducting from his valuation for January 1st, 1913, all value, tangible and intangible which he finds was added to the plant after the year 1907. In this way he fixes his valuation for the latter year at $436,656.

It is to be noted that the amount deducted by the master in arriving at his 1907 valuation was $240,000. This was the *depreciated* value of all property, tangible and intangible, which the master found had been added to the plant after the year 1907, for he expressly states that the $240,000 is the value of such additions *as of January* 1, 1913. At the hearing below, on the exceptions to the master's report, counsel insisted that the master deducted the undepreciated amount of the additions found from the *depreciated* value found by him for the year 1913, and that in this way the amount deducted was larger and the value for 1907 smaller than it should have been. The master's report is not open

to that criticism. It is perfectly plain that the $240,000 deducted by the master is the depreciated value of the additions, and since his valuation as of January 1, 1913, ($676,565) was the *depreciated* value, the master was right in first finding the *depreciated* value of the additions before deducting them from his 1913 valuation in arriving at the 1907 valuation.

In his calculations as to the 1907 income the master found that at the $1.00 rate the gross income for that year would have been $178,626, and that the legitimate operating expenses should have been $156,277, leaving a net return for that year under the rate fixed by this ordinance of $22,349, or 5.2 per cent on the valuation found by him for that year. This, however, is upon the basis of the actual sales for that year under the old rate and does not take into account increased sales which would probably follow, and which all experience tells us would follow, a reduction of the gas rate. It is also to be remembered that that the master's calculation for 1907 included a substantial amount for going value, since there was $40,000 included in the 1913 valuation which was added on top of and in addition to the tangible property, and in the total for 1913 is included said sum of going value, from which the master made his deductions of added value in getting his valuation for 1907. He found that the construction account of the company showed additions to the property since 1907 amounting to $210,437, and he increased this amount sufficiently to cover going value and other intangible items and fixed the value of the additions at $240,000 as of January 1, 1913 (that is, the depreciated value), and this when deducted from his depreciated value for the whole plant for January 1, 1913, left his valuation for 1907 which, of course, included an allowance for going value up to that year.

Aside from the question whether a separate item of going value should be included, and, for the present discussion, leaving the valuation at the figures fixed by the master, we call attention to the fact that the master included in the 1907 operating expenses an item of $4,466 to cover the occupation tax provided by the occupation tax ordinance which was in force when this suit was begun and which was attacked by the bill in this case. The master allowed this in spite of the fact that no such occupation tax had ever been paid by complainant and in spite of the fact that complainant was resisting payment, not only by its attack in this litigation, but was also resisting payment in litigation then pending in the state courts wherein the city was attempting to enforce collection. Judge Morris, before whom the exceptions to the master's report were heard, disagreed with the master as to the validity of the occupation tax ordinance and held that it was void. Since the hearing in the court below, the Nebraska Supreme Court, in a suit wherein the city was attempting to enforce the collection of the occupation tax under said ordinance, held the ordinance void. (See *City of Lincoln* v. *Lincoln Gas & Electric Light Co.*, 100 Neb. 182).

There is, therefore, no longer any basis for contending that complainant has the right to have included in its operating expenses for 1907 said sum or any other sum to cover the occupation tax. Eliminating this one item from the operating expenses for 1907, allowed by the master, the net income for that year on the master's figures would be $26,815, or a little over 6.1 per cent on the master's valuation for that year.

We shall, in a later portion of this brief, point out many substantial items included in the operating expenses by the master which should have been excluded. The master admits in his report that many of these items were not proper

but he states that he did not find it necessary to eliminate them since his finding sustained the rate without such elimination. (See pages 50-51 and last half pafe 53 and top page 54, printed record.)

The master made no detailed calculations as to the rate of return for the intervening years between 1907 and 1912, but, with reference to these years he says, on page 53 of the printed record:

> "I do not go into the accounts for the years between 1907 and 1912 as the calculations made by Mr. Lea show beyond question that the net income was for each of these years from 50 per cent to 100 per cent greater than in 1907."

4. Burden of Proof on Complainant.

In the case of *Wilcox* v. *Consolidated Gas Co.*, 212 U. S. 19, 53 L. Ed. 382, the attitude of this court in such cases was clearly defined. The third section of the syllabus states the rule thus:

> "The case must be a clear one before the courts should be asked to interfere by injunction, with state legislation regulating gas rates, in advance of any actual experience of the practical result of such rates"

On page 51, in the body of the opinion, Mr. Justice Peckham, speaking for the court, said:

> "Of course there is always a point below which a rate could not be reduced and at the same time permit the proper return on the value of the property; but it is equally true that a reduction in rates will not always reduce the net earnings, but, on the contrary, may increase them. The question of how much an increased consumption under a less rate will increase the earnings of complainant, if at all, at a cost not proportioned to the former cost, can be answered only by a practical test. In such a case as this, where the other data upon which the computation of the rate of

> return must be based, are, from the evidence, so uncertain, and where the margin between possible confiscation and valid regulation is so narrow, we cannot say there is no fair or just doubt about the truth of the allegation that the rates are insufficient."

And in the case of *Knoxville* v. *Knoxville Water Co.*, 212 U. S. 1, 53 L. Ed. 371, the same question was gone into and many statements in the opinion make it plain that where it is sought by injunction to suspend the enforcement of a rate in advance of an actual trial of its effect, the court will decline to interfere unless the showing is sufficiently strong to put the confiscatory character of the rate beyond any just and fair doubt. In the course of the opinion, Mr. Justice Moody, on page 16, said:

> "The jurisdiction which is invoked here ought, as has been said, to be exercised only in the clearest cases. If a company of this kind chooses to decline to observe an ordinance of this nature and prefers rather to go into court with the claim that the ordinance is unconstitutional, it must be prepared to show to the satisfaction of the court that the ordinance would necessarily be so confiscatory in its effect as to violate the constitution of the United States. In *Ex parte Young*, 209 U. S. 123, 52 L. Ed. 714, the last word of caution by this court was said (p. 166): 'Finally it is objected that the necessary result of upholding this suit in the circuit court will be to draw to the lower federal courts a great flood of litigation of this character, where one federal judge would have it in his power to enjoin proceedings by state officials to enforce the legislative acts of the state either by civil or criminal action. To this it may be answered, in the first place, that no injunction ought to be granted unless in a case reasonably free from doubt. We think such rule is and will be followed by all the judges of the federal courts.'"

And on the same page, the following from the opinion in *San Diego Land & T. Co.* v. *National City*, 174 U. S. 739, 43 L. Ed. 1154, was quoted with approval:

> "Judicial interference should never occur unless the case presents, clearly and beyond all doubt, such a flagrant attack upon the rights of property under the guise of regulations as to compel the court to say that the rate prescribed will necessarily have the effect to deny just compensation for private property taken for the public use."

And again on page 17 of the same opinion the writer repeated with approval the following expression of the court in the case of *San Diego L. & T. Co.* v. *Jasper*, 189 U. S. 439, 47 L. Ed. 892:

> "In a case like this we do not feel bound to re-examine and weigh all the evidence, although we have done so, or to proceed according to our independent opinion as to what were proper rates. It is enough if we cannot say that it was impossible for a fair-minded board to come to the result which was reached."

And again, on page 17, the court sums up the whole matter in this manner:

> "We do not feel called upon to determine whether a demonstrated reduction of income to that point (4 per cent) would or would not amount to confiscation. Where the case rests, as it does here, not upon observation of the actual operation under the ordinance, but upon speculations as to its effect based upon the operations of a prior fiscal year, we will not guess whether the substantial return certain to be earned would lack something of the return, which would save the effect of the ordinance from confiscation. It is enough that the whole case leaves us in grave doubt."

In other words, it is the settled policy of this court to discourage, as far as possible, the practice on the part of public service corporations of rushing into the courts, and attempting to suspend rate regulation without first giving the rate a practical test, thereby eliminating speculation and prophecy based upon opinion evidence, and substituting

facts gleaned from actual trial and experience, and to refuse to interfere by injunction, except in those cases where there is no just or fair doubt of the confiscatory character of the rate complained of.

5. Real Estate Valuation.

The master not only valued the real estate of the complainant at a much higher figure than we think was justified by the evidence, but he included several tracts which are neither used nor useful in the gas business of complainant.

We contend that the block on which the gas manufacturing plant is located is the only real estate which is either used or useful in the operation of this plant for the Lincoln service. This is block 79 in the Original City of Lincoln, and contains twelve lots. There are some lots in other blocks near the plant which the company has included in its inventory, but which are not used by the company in connection with the gas business. The lots in Peck's Grove are partly used for the East Lincoln holder, and part of them are not used at all by the Gas Company, but are rented for residence purposes. Of course, it goes without saying that the lots which are not used at all, but are being rented, cannot be included in this valuation. As to the Peck's Grove lots whereon the East Lincoln holder is located, there is a controversy between the city and the company as to whether this East Lincoln holder forms a necessary part of the Lincoln service. The East Lincoln holder is located on lots from 6 to 15, inclusive, in block 2, Peck's Grove, and these lots cost the Company, at the time it erected the East Lincoln holder, $1,000 (B. C. Adams, p. 626, printed record). The lots have not increased in value since that time, but, as a matter of fact, there has been a slump in the value of real estate in that vicinity. One thousand dollars

would, therefore, be a fair valuation for the six lots upon which the East Lincoln holder is located, in case the court should find that this property, or any part of it, should be included. All of the other Peck's Grove lots were purchased to satisfy objecting owners in that location, as the evidence cited will show, and are not used in the gas business, and they should not be inventoried as a part of the property upon which rates are to be paid.

The remainder of the real estate is disconnected from any part of the plant or property used in any way in connection with the manufacture or distribution of gas. This disconnected property is rented to tenants. There is no present nor contemplated use for any of it. Such real estate was excluded in *Cedar Rapids Gas Light Co.* v. *Cedar Rapids*, 144 Ia. 426, 120 N. W. 966, 138 A. S. R. 299, which was affirmed by this court in 223 U. S. 655, 56 L. Ed. 549. See also: *Petee* v. *Brooklyn & C. B. Light & W. Co. Pub. Utility Rep.* 1915A, p. 46, decided by Maryland public service commission, January 15, 1915, where it is said:

> "Suffice it to say that we think the sum of $150,000, upon whic hthis estimate of a proper return is based, is too high, especially when we consider that in the construction of its plant in Brooklyn, the respondent provided a plant sufficiently large not only to take care of the present prospective customers in that territory, but also all customers that might be added by the future development and provement of the property in and around Brooklyn for a number of years to come. In doing this, the apparatus at its pumping station was materially enlarged and its mains were run through certain sections in Brooklyn where the property is unimproved, but which the defendant hoped would be improved in the future. This additional outlay the defendant preferred to make, and perhaps wisely so, rather than increase the capacity of the plant as new demands were made upon it; but certainly the present users cannot be expected to pay a rate sufficiently high to yield a fair return on the money invested in excess of the

amount necessary to properly provide for the present consumption. If the company elects to make this outlay now, rather than wait until there is a demand for it, then the company, and not the users, should stand the interest on this amount."

See also:

Southern Pac. Co. v. *Bartine*, 170 Fed. 725, (767).

Long Brach Commission v. *Tintern Manor Water Co.*, 70 N. J. Eq. 71, 62 Atl. 474.

Ely v. *Ely Light & Power Co.*, 3d Am. Rep. Nev. P. S. C. 295, (298).

San Diego L. & T. Co. v. *Jasper*, 189 U. S. 439, 47 L. Ed. 892.

If we eliminate the unused real estate and include only the lots in block 79 where the plant is located, and the Peck's Grove lots where the East Lincoln holder is located, (notwithstanding this holder is primarily for the suburban service) and give to this real estate actually used the value assigned to it by the Company's witnesses, we get the value as follows:

12 lots in block 79	$11,000
Lots 6 to 15, block 2, Peck's Grove, $300 per lot	3,000
	$14,000
Deduct 27% for electric department	3,780
Value of real estate actually used by the gas department	$10,220

In justification of the apportionment to the electric department of 27 per cent, we call attention to the fact that the master found that the electric consumers were 27 per cent of the total number of consumers of both departments (bottom p. 51 and p. 52, P. R.). Attention is also called to the fact that at the former trial of this case the complainant apportioned the real estate at the works on the basis of two-thirds to the gas department and one-third to the electric department.

6. Valuation of Buildings.

The reproduction costs fixed by the master for a number of the buildings are the same as those fixed by the Company's principal expert witness. The reproduction costs found by him for the remainder of the buildings are almost an exact average of the reproduction costs fixed by the witness for both sides. Mr. Assenmacher, the only practical contractor who testified at the last trial, and who was the only witness in a position to give strictly reliable information as to what these buildings could be built for today, fixed the reproduction cost in every instance far below that fixed by the master. The tendency of the master was to give complainant the benefit of the doubt and to follow or approximate the values fixed by the Company's experts.

Complainant complains of the master's method of depreciation. He applied what is known as the straight line method, insofar as he depended upon arbitrary hypothesis (see p. 44, printed record), but it must not be understood that he applied said method in its full force. He assumed that a large part of depreciation was taken care of by current repairs and renewals and took this into account in applying depreciation as well as in his allowance for future depreciation. On this subject he says on page 53 of the printed record, beginning with line 14:

> "The property has been depreciated on the assumption —warranted I think by the proofs—that it has been kept in good order and efficient, not only by current repairs, but by renewals as well."

To show how far the master fell short of applying full straight line depreciation we here analyze his figures:

PURIFYING HOUSE.

The master found the reproduction cost of the purifying house to be $16,700, and its present value $13,200. Hence the amount of his depreciation was $3,500. The assumed life of

this building, according to Mr. Lea, (complainant's expert), was fifty years, and its age twenty-two years. The depreciation, according to the straight line method would be 44 per cent, whereas the master's depreciation is but 21 per cent of the new cost.

GENERATOR HOUSE.

The master found the reproduction cost of this building to be $4,000, and its present depreciated value $3,800. In other words, it has depreciated, according to the master's findings, $200, or five per cent. If we take the assumed life, fifty years, assigned by Mr. Lea, the Company's expert, and the age, five years, agreed to by the experts of both parties, it will be seen that this building had lived one-tenth of its assumed life, and had therefore depreciated $400, or ten per cent of its new cost, according to the straight line method.

RETORT HOUSE.

The master found the reproduction cost of this building to be $7,500, and its present depreciated value $6,375. Accordingly he found the building had depreciated $1,125. It is agreed that the building was 22 years old. Mr. Lea assigned an assumed life of fifty years, and on this assumption the building had depreciated 44 per cent, which would be $3,300, instead of $1,125, found by the master. The percentage of depreciation found by the master was 15 per cent, or about one-third of what it would be on the basis of Mr. Lea's assumed life.

METER SHOP AND BOOSTER HOUSE.

The master found the reproduction cost $2,850, and present value $2,660. The depreciation would therefore be $190, or 6.6 per cent. On Mr. Lea's assumed life and age the depreciation on the straight line method would be 10 per cent, or $285.

COAL SHED.

The master found the reproduction cost to be $2,000, and present value $520. The depreciation would therefore be $1,560, or 75 per cent of the new cost. According to the assumed life and age by Mr. Lea, the depreciation would be 88 per cent instead of 75 per cent on the straight line method.

We therefore contend that since the reproduction costs placed by the master upon these buildings were much higher than what they should have been, according to the evidence produced by the city, the Company has no reasonable basis for complaint of the master's findings as to these reproduction costs. If the present value of the buildings is to be arrived at by applying the straight line method of depreciation to the new or reproduction cost, then the master's findings of present value as to all of these buildings are much higher than they should be, and, since this is the result, not of a failure of the master to make proper findings from the evidence, but a failure to apply in its full force a correct engineering or legal principle to the matter of depreciation, we feel at liberty to urge, without at all conflicting with our contention as to the weight to be given to the masters' findings of fact, that assuming the reproduction costs found by the master to be correct, his present values should be scaled down to a considerable extent. We therefore revise the master's figures as to the present value of these buildings, and in order to remove any opportunity for discussion as to the assumed life and ages we have taken those assigned by Mr. Lea, the Company's expert, and have applied the straight line method of depreciation to the master's reproduction costs, with the following results:

Bldgs.	Lea's Assumed Life	Lea's Ages	Master's Reproduction Cost	Master's per cent Depreciation	Correct per cent Straight Line Depreciation	Master's Present Value	Correct Present Value Under Straight Line Depreciation
Purifying House	50	22	$16,700	21	44	$13,200	$9,352
Generator House	50	5	4,000	5	10	3,800	3,600
Retort House	50	22	7,500	15	44	6,375	4,200
Meter Shop.							
Booster House	50	5	2,850	6.6	10	2,660	2,565
Coal Shed	25	22	2,080	75	88	520	150
Oil Tank House	50	15	1,807	17	30	1,500	1,265
Oxide Shed	20	3	70	10	15	63	59
Stable and Blacksmith Shop	25	15	949	48	60	493	379
District Holder Booster House	40	3	811	5.5	7.5	770	751
				Total		$29,381	$22,321

To enable the court to compare the reproduction costs of the buildings as found by the master with the reproduction costs of the several expert witness of both parties at both trials of this case we give below the figures of the several witnesses and those of the master for the entire group of buildings:

(a) REPRODUCTION COSTS OF THE COMPANY'S BUILDINGS AS OF JANUARY 1, 1907.

Malone, for complainant $37,288
Lea, for complainant 33,034
Jansen, for the city 24,643
Adams, for the city 22,247

The master made no separate valuation of the buildings for 1907. Mr. Lea, the principal expert for complainant, made no separate valuation for 1907, but, by deducting from his 1913 valuation the additions he claims were made since 1907, we get his 1907 reproduction cost as above stated.

(b) REPRODUCTION COSTS OF BUILDINGS AS OF JANUARY 1, 1913.

Lea, for complainant $41,312
Assenmacher, for the city 29,007
Adams, for the city 28,135
The master's reproduction cost 36,767

As we have said the figures given in both of the above tabulations are the reproduction costs before taking off depreciation. The difference between the reproduction cost of the Company's buildings as fixed by Mr. Lea, the Company's chief expert, and the figures of the master for reproduction cost is $4,545, and if the master had given full force to the usual straight line method of depreciation, the difference in the present or depreciated values of the two would have been much greater than the difference in their reproduction values, whereas, by the assumption indulged in, and rightly too, that much of the depreciation had been taken care of by repairs and renewals, the master's depreciated value of the buildings is but $1,586 below the depreciated value claimed by complainant.

7. Valuation of Work Equipment.

AS OF JANUARY 1, 1913

The Company's expert, Henry I. Lea, fixed the reproduction cost of the works equipment at $253,298, and its present or depreciated value at $196,759. Alton D. Adams, the city's expert, fixed the reproduction cost at $171,273 and its present value at $133,298, which includes in both instances 7 per cent for engineering, etc. The master fixed the reproduction cost at $198,868 and its present value at $179,310.

It will be seen that the master's reproduction cost for works equipment as of the above date was $27,595 more than the valuation placed upon it by Alton D. Adams whose valuation was largely based upon actual prices paid, and costs incurred by the Company, and upon recent prices involved in contracts for such equipment in other plants. We will not trouble the court with a tedious discussion of the expert testimony relative to this or any other part of the physical equipment. Any one who cares to read the testimony of Henry I. Lea, the complainant's chief expert, will see that he paid absolutely no attention

to what this Company had paid fr any of its equipment. Time and again in his testimony he disclaimed any knowledge of what the actual cost was, and that he did not even investigate the books of the company for actual costs, and did not care what they were. He claimed to base his valuation upon his large experience in installing and valuing such property elsewhere, yet he refused to give actual cost of other properties urging, as his reason, that it would be betraying secrets of his clients and would be unprofessional.

On the other hand, the city's expert, Alton D. Adams, in almost every instance based his valuation upon actual cost of similar equipment elsewhere, or the actual price paid by this Company for the equipment being valued. In spite of Mr. Lea's contempt for actual costs, courts recognize such costs as being among the most reliable means of arriving at present value. In the Kansas City Water Works case, 62 Fed. 853, Mr. Justice Brewer said:

> "The original cost of the works is not accurately and satisfactorily shown. If it would have assisted us in reaching a conclusion—if, in consequence of our ignorance thereof, we have not placed the value upon this property which it deserves—the company is alone to blame, for by the production of its books it could have clearly shown the actual cost of every part and of the whole of its property."

An instance quite clearly showing the difference in methods of these two experts is the matter of valuing the two tar tanks. Mr. Lea estimates the steel alone in the two tanks to cost $1,149 (subdivision "I," Exhibit "7," p. 1330, printed record).

Mr. Adams, however, estimates that the steel part of each tank would cost $393, or $786 for the two (pp. 897-8, printed record). They differ a little on their price per pound for the steel, but the difference is largely in the number of pounds.

Mr. Lea takes the tanks just as he finds them, and estimates the pounds of steel they contain. Mr. Adams finds that they were not constructed as tar tanks at all but were two old steam boilers constructed of heavy steel sufficient to resist steam pressure, and that they are much heavier than tar tanks constructed as such. He therefore estimates the quantity of steel in two tar tanks constructed as such with equal capacity, and values these tanks at what two such tar tanks would cost.

In his treatment of these out-of-date purifying boxes, Mr. Adams was sustained by high judicial authority. Dealing with a similar question the Supreme Court of Iowa in *Cedar Rapids G. L. Co.* v. *Cedar Rapids*, 138 A. S. R. 299, (308), said:

> "In ascertaining values in this way, the worth of a new plant of equal capacity, efficiency and durability, with proper discounts for defects in the old, and depreciation for use should be the measure of value rather than the cost of exact duplication."

Would these old boilers be worth any more to a purchaser to be used as tar tanks than what two tar tanks of equal capacity could be constructed for? We call attention to the fact that Mr. Lea figures the steel at 4.5 cents per pound whereas Mr. Adams estimates it at 3.7 cents the actual price paid per pound by the Company in 1909 and 1910 respectively for the two oil tanks which we shall next discuss. This shows the value and importance of getting at actual prices paid by the company in actual experience.

Another instance, to which we direct attention, showing how Mr. Adams corroborates his testimony from the records of the Company, and clearly illustrating the value and importance of doing so, is the case of two oil tanks testified to by Mr. Adams, beginning at page 898, printed record. It will be seen by referring to subdivision "I" of Mr. Lea's Exhibit

"7" (vol. 4, p. 1330) that he values the two steel parts of the two 10- foot 9-inch oil tanks at $1,158. Mr. Adams finds the bills for these tanks showing that they actually cost the Company $335 each, or $670 for the two.

And we here cite the construction account of the Gas Company (p. 1957, vol. 5, line 2) in corroboration of Mr. Adams and to contradict Mr. Lea, as to the cost of these tanks and as to the cost of their complete erection.

AN INTERESTING COMPARISON AS TO TWO STEEL OIL TANKS.

	Lea (7-I-55)	Adams (Ex. 235)	Const. a/c of Co.	Lea's excess over Const. a/c.
Cost of two tanks	$1,158.00	$ 670.00	$ 630.00	$ 528.00
Cost of erection	$ 697.00	$ 490.00	$ 559.32	$ 137.68
Complete cost.	$1,855.00	$1,160.00	$1,189.32	$ 665.68

Now what confidence can be placed in a valuation by an expert who is so totally at variance with actual costs as to be guilty of such ridiculous overstatement? And what shall we say of a company which will permit such an estimate to be made and sworn to and placed in evidence with the purpose of having it accepted by the court, when their own records show the cost of every item entering into the construction of these tanks, and when they knew that their expert had valued them 56 per cent higher than they actually cost? Does this court believe that Mr. Lea did not know what these tanks actually cost? If he did not know why did he not ask? And why did not this company show this construction account to Mr. Lea? When he had produced such a monstrous over valuation of these tanks why did they not produce this record and ask him if he did not wish to cut it down so as to bear some reasonable relation to actual cost?

This was not a mere oversight. It was deliberate, and whatever excuse Mr. Lea may offer, this Company can not excuse itself for so attempting to impose upon the court.

It will be noticed from reading the above cited testimony that Mr. Lea is not to be relied upon in any of his valuations. These two tanks were purchased November 22, 1910, since the first trial, yet the Company, well knowing what they actually cost, also the actual weight, permitted Mr. Lea to turn in a valuation practically double the amount actually paid for these items of equipment, and greatly overestimating the weight.

The fact that this company would permit such a gross exaggeration of the actual weight and value of these tanks when they could just as well have produced the actual vouchers and construction account for so recent a purchase indicates that it is willing to mislead the court as to the cost and value of any and all of its property, and makes it highly important that we should scrutinize its showing, not only as to its property, but also as to its operating expenses.

8. Valuation of Distribution System.

By far the largest single item of physical property belonging to complainant's gas plant, is the distribution system. This is practically all under ground and cannot be seen and, therefore, an excellent opportunity is afforded for controversy as to its age, the weight of the pipes, and its present condition. A slight mistake as to the age would result in an erroneous conclusion as to depreciation. A slight increase, or decrease, in the weight of the pipe, or in its cost, would result in a very substantial error as to its value. It was, therefore, important to determine, as nearly as possible, the actual age of each piece of construction in the distribution system; the actual weight of the pipe per foot, and, as nearly

as possible, the actual original cost of the material and labor entering into its construction as well as the actual present cost of reproduction. It goes without saying that any public service company properly conducted not only could, but would, have records of its construction showing the actual facts as to all these items. It is claimed by complainant that in the early history of this corporation no accurate record was kept and that there is none in existence from which an accurate history of these matters can now be obtained. It is to be remembered, however, that the original plant and original distribution system which were constructed back in those "dark ages" of this enterprise, are no longer in existence and are not a part of the property with which we are now dealing. The original distribution system consisted of wooden mains and these have long ago passed out of existense, and the original plant at which the gas was manufactured was long ago abandoned and the present gas works are in an entirely different location and, so far as we have been able to discover, no part of the original plant or distribution system is now in existence. For the period of time during which the present property has been developed this company has kept fairly accurate records and could, if it would, produce the actual cost of practically every piece of property now owned by it. Instead of furnishing to the master at the hearing in this case the actual cost of its property and the actual ages of a very large portion of it, and the actual weight of the cast iron pipes forming the most valuable part of its distribution system and the actual cost of its buildings and machinery, it has seen fit to take the position that the actual figures could not be procured and furnished and it has rested its entire case upon the testimony of experts who dealt with theories and speculated as to the value of this property, its age and in the distribution system not only the age of the different pieces of construction but the actual weights and cost of the pipe were left almost

entirely to speculation. Mr. Alton D. Adams, the expert for the city, spent a great deal of time searching through the records of the company and through its vaults and through boxes and piles of papers in its basement endeavoring to get the actual history of all of these matters. Concerning the work done by him, as well as the difficulties encountered in endeavoring to get at the actual facts relative to these matters, we quote the following from his testimony, beginning on page 840, volume 3 of the printed record:

> "As to what benefits, if any, have been derived from the reports filed with the Massachusetts Gas Commission in ascertaining the life of property and apparatus used in the manufacture of gas, that is one of the particularly valuable features, to my mind, of the Massachusetts (reports), because the form of the reports, is sufficiently complete so that engineers familiar with the gas business can read those reports and can go about and look at the properties and recognize the properties from the reports and trace the properties down through now more than a quarter of a century of life and see what the changes have been and thereby is created a record as to depreciation that is unexcelled. I have been doing that a great deal for the last ten years and made a great many records from it.
>
> "I have repeatedly examined the property of the Lincoln Gas & Electric Light Company with a view of making a valuation of it. As to what examination of the company's property, records and books I have made and the time I have put in on it,—I began to attend in Lincoln in the latter part of last year, have now forgotten the date * * * and have been here in the city of Linocln, apart from some work that I did away from the city,—have been here certainly more than two months, perhaps as much as three, right here in the city. I have during that time repeatedly visited the gas works, can't say how many visits I have made, but enough to familiarize myself at least in a general way with the plant. Have spent a large portion of the time that I have been in Lincoln in an investigation of the records in the office of the gas company as to its plant, property and operations. Have spent a good deal of time in an effort to acquire a knowledge of the property of the

gas company apart from the works, that is the property scattered over the city of Lincoln under the streets. And I may mention, as I understand the testimony of the company's engineers, the greater part, substantially more than half, of the visible property of the gas company is spread over the city of Lincoln and is not down at the works at all. I am quite sure the valuation made by Mr. Lea shows over 60 per cent of the physical value to be in what is termed the distribution system, to a great extent is covered up and buried in the ground, and isn't readily open to inspection like buildings and machinery at the plant. I have given a great deal of consideration in an effort to arrive at a just and fair cost of what that property really is for a basis of valuation. Then of course the vouchers of the company which run back to 1901, not back of that so far as I find, have been through all of those years of vouchers and have made copious extracts from the bills since 1901 rendered to the company by various concerns from which it bought equipment. As to whether I caused any examination to be made prior to the year 1901, I would say that it is impossible to do that. I made an extended search in the vaults and out of the way places for all of the vouchers you could find. We had a good deal of difficulty in finding these bills, not that I mean the company made any difficulty for us, but the bills were not filed in any regular way or place and we failed to find a large part of them. Some were in the vault down in the basement nailed up in some old wooden boxes, entirely unassorted, and they had to be arranged and gone over before we could find what was in them. I can hardly dignify the assistance I have had from the company as to those vouchers by the name of a search. I don't mean to say that the company has put any impediment in our way. I asked for all of them and they said all are in this miscellaneous pile; there was a vault down stairs and they said everything is down here now, help yourself; we helped ourselves and the company as to some special vouchers have repeatedly given me some assistance where I wanted a particular bill and in several instances found the bill I wanted, in one or two instances because some officer of the company had it. In general the policy of the company was to say our records were in such and such a place, go there see what you can find, and help yourself. I did considerable searching for and question-

ing about these contracts entered into the past year for various parts of its gas equipment. Those contracts have only in part been discovered. I understand from the testimony of the company that they have all been turned over to me that have been available; a good many contracts have disappeared. Then the regular books of accounts, such as ledgers, journals, and cash books and some others have all been looked into with a good deal of care for the records of the structural cost of the property here. Of course those books are run under the name of the different one or two corporations that have preceded the present corporation, but the books are in the office of the company back to 1872 or 1873, when the construction of this plant was carried out.

"Then the company has certain records as to the construction of its mains. I have made a considerable number of extracts of these and the process of investigating main work orders so-called, which are orders to the foreman to lay specific pieces of gas mains in specific places. These are still under investigation. The company has a very considerable file, I think nearly 700 of these work orders, which are on file in bound volumes and reveal a good deal of the facts relative to that part of the construction of the company's property. They are the best evidence, as far as they go of its mains, but the orders appear only to be given about the year 1905, and run from there down to date. The service cards are another source of information. I think they begin about 1905. The work of investigating these service cards, which are a written record on a little card-board filed away, concerning the construction of the service pipes from the main to the meter of some consumer, and contain a good bit of valuable information as to the size of pipe, its length and various other matters connected with its construction. The company has a few drawings that have been made accessible to me, the files of the company are not very full in that respect; they are a source of information. It has several maps of mains that have appeared in the testimony; those have all been considered by me. Then the company has a special form of record called gas report, being a specific form of record called a gas report, being a specific form of compilation as to its gas plant and particularly as to the operation of its gas plant, as far as I can judge for the purpose of showing the officials of the company, perhaps those absent as well

as those present in Lincoln, what were the operations of the company from year to year. Of course the figures that go into those so-called gas reports are drawn from other records of the operations of the company—the station records, laying of mains, and various other sources. I resorted very considerably to those so-called gas reports which are made out in the first instance month by month and later for the twelve months closed into the year. Those gas reports begin to be pretty complete about the year 1903, and continue down to date. So we have a pretty complete record of the operations of the company beginning with the year 1903 in those gas reports. By operations I mean particularly the making of gas. These gas reports do not disclose in any complete way the construction of the property, for that you have to go to the bills, books and plant itself as it exists down on block 79, and as it exists in the streets of the city of Lincoln. I think that is a fair general statement of the scope of the investigation.

"As to the condition of the company's construction account as it appears on the books and my investigation of it, would say I have been over the construction account of the company, as it appears on the books, very extensively. In fact, I have worked with Mr. Wiggins in the compilation of the account which I understand he has presented here in evidence. The construction account appears in their books from about 1873 down to date."

If the company's gas mains were above ground and could be seen and measured there would be no great difficulty in arriving at their present value, but being under ground and out of sight and their size, weight, age and condition all being important factors in arriving at their value it was the duty of the company to produce the actual facts as to all of these matters. We believe if it had been to the interest of the company to furnish the exact history of its distribution system, the exact cost of its mains, their sizes and weight that these matters would all have been produced and the actual records placed in evidence. If this had been done the court could by making proper allowances for the increase

or decrease in cost of material and labor as compared with the time of construction, have arrived at a fair and just valuation against which neither party could have made any valid complaint. It is inconceivable that a corporation owned to a very large extent by financiers who are non-residents of the city and who are obliged to operate it through persons employed and placed in charge of the property would permit the development and construction of a plant without having exact records kept as to the cost of each item of construction. We believe such records have been kept and could be furnished if the interests of the company in this litigation required that they should be furnished. If they have not been kept it is the fault of the company and not of the public, and if either party is to suffer as the result of this neglect it should be the one guilty of the neglect.

In valuing the distribution system, as well as the other portions of the plant, the master had before him the testimony of Henry I. Lea, the chief expert witness of the company, and of one or two others, all of whom testified theoretically as to the value of most of the items of property. They paid little or no attention to the original cost of the plant and Mr. Lea especially disclaimed any knowledge of what the property cost and frankly admitted that he did not care. The witnesses for the city testified either from actual experience in local construction or from information gained very largely from the records of the company and from actual costs of similar properties recently purchased or constructed. Yet the master, in the main, followed the reproduction figures of Mr. Lea in valuing the distribution system. On page 43 of the printed record will be found his valuation of this portion of the plant and the following extract from his report found on that page shows clearly how he arrived at his figures:

"Mr. Lea's estimate of the net construction cost of mains laid in unpaved streets is $179,814; Mr. Adams' $130,913. I have allowed $173,700. Lea's estimate of the net construction cost of total services is $111,689; Mr. Adams' $69,939. I have allowed $76,116.

"For services and boxes and cocks I have allowed $9,000; for total service governors $18,950; for total meters $60,500; for distribution tools $6,210; for street main drips $1,113; for main valves $328; for district governors $225; for railway crossings $2,800; and for gas appliances loaned $3,250; making a total of $352,192 as the net construction cost of the distribution system. The difference between the total cost, as fixed by me, and the total cost according to Mr. Lea ($529,736) consists for the most part in the elimination from Lea's figures of three items, namely:

"(1) 3½ excess overhead.

"(2) The cost of paving over mains and services, and

"(3) The cost of service pipes paid for by patrons of the company.

"Adding 12½% overhead charge to the net construction cost of $352,192 gives $396,216 as the total reproduction cost of the distribution system; and its depreciated value or present worth I find to be $351,634. That no allowance can be made in a rate case for the reproduction cost of paving over mains and service pipes seems now to be established by the clear weight of judicial and administrative authority."

Since the master found the reproduction cost of the distribution system in harmony with the testimony of complainant's chief expert, complainants can have no reasonable ground for objection to the finding unless the master was in error as to the three items above named, which were responsible for reducing his valuation below that claimed by the company, or, unless he was in error in his method of depreciating the property.

We have referred to the testimony bearing upon the valuation of the distribution system at some length for the purpose

only of calling the attention of the court to the fact that the master resolved the doubt as to reproduction cost mainly in favor of complainant's own contention.

As to the overhead item allowed by the master we beg leave to discuss that subject in a later portion of this brief where we shall discuss overhead expense as applied to all of the property.

As to the cost of paving over mains and services which were laid in dirt streets, we need only cite the recent holding of this court in *Des Moines Gas Company* v. *City of Des Moines,* 238 U. S. 153, 59 L. Ed. 1244, where it was held that the cost of paving over mains which were laid before the street was paved need not be included as a part of the reproduction cost of the property in a rate case.

To the same effect see also *Cedar Rapids Gaslight Company* v. *Cedar Rapids,* 134 Ia. 426; *People* v. *Wilcox,* 104 N. E. (N. Y.) 911.

With reference to cost of service pipes paid for by consumers, which was eliminated by the master, he says on page 44 of the printed record:

> "Of course, in valuing a utility, no distinction can be made between property acquired by purchase and property acquired by gift or otherwise. The value of whatever the company ownes and devotes to the public service regardless of the means or method of acquisition is a just and proper standard by which to measure reasonable rates. But it cannot, I think, be said, looking at the matter broadly, that the company is the owner either technically or equitably of these service pipes. It bought and put them in, it is true, but when it was reimbursed by its patrons for the cost, can it be supposed that it still intended to retain title and the right to remove them at pleasure? A more reasonable inference is that in every case both parties to the transaction regarded the pipes when paid for as belonging to the owner of the

tenement with the right on his part to use them if so inclined in connection with a service furnished by a rival company or for any other purpose, even though entirely unrelated to the gas business. They cannot, it seems to me, consistently with the principle above stated by Mr. Justice Harlan, constitute in part the basis for a rate that can be regarded as entirely fair to the public. The gas consumers have paid $30,484 of the amount claimed by the company for putting in service pipes and this item I have eliminated from the valuation."

The annual gas reports of the company for the years 1903 to 1912 inclusive show a total collected by the company from gas consumers for the installation of gas services of $33,-789.15. This amount, of course, was included in Mr. Lea's valuation plus 16% for engineering, etc., and this 16% the master was obliged to add to the amount paid for by consumers when he deducted the amount from Mr. Lea's valuation of services in getting the amount which he finally accepted as the value of the distribution system.

In support of the elimination of the amount paid by consumers for new services see *Santiago Water Company* v. *Santiago*, 118 Cal. 556, 62 A. S. R. 261, (275); *Illinois Central* v. *Interstate Commerce Commission*, 206 U. S. 441, 51 L. Ed. 1128.

9. Overhead Charges.

Concerning the matter of overhead charges the master said, beginning on page 37 of the printed record:

"In ascertaining the value of the property of a public service corporation it is the recognized and approved practice to add to the fundamental cost of the physical equipment, excepting real estate and working capital, a proper percentage to cover overhead expenses. This percentage represents the difference between the net construction cost and the cost of reproduction new. Just what it should be is the question about which there is much difference of opinion among engineers, courts and

commissions. In this case Mr. Lea puts it at 16% and Mr. Adams at 7%. The matter is not governed by any inflexible rule, but is to be determined in every case by the exercise of good sense and sound discretion. The amount should be sufficient rather than liberal, especially where liberality might result in blotting out legislation which in the regulation of rates is only required to stop short of confiscation. The property was inventoried by Mr. Broadnax, an employe of the company, and a gas engineer of long experience. The work seems to have been done with unusual thoroughness. The only error discovered during the course of the long trial was one of inclusion; there was none of exclusion. My judgment upon the matter is that an allowance of 12% on the total net construction cost of the physical property, excepting real estate and working capital is sufficient to cover all overhead expenses, including engineering, superintendence, legal expenses, taxes, interest during construction, omissions and contingencies, casualty liability and whatever else is usually classified under this caption. This is necessarily an estimate based almost entirely upon expert testimony. No accounts were kept and no books, vouchers or other evidence produced showing with even approximate accuracy what expenditures were actually made and properly chargeable to this account. The value of the property has substantially increased by additions made to it in recent years, but the only means of ascertaining what the overhead charges on account of such additions were is by the use of a more or less reliable hypothesis. Courts and commissions differ widely upon this question; and while it may be that the percentage here allowed is not enough, the evidence does not convince me that it ought to be more."

ENGINEERING, ETC.

Most engineers include in the term overhead cost engineering and supervision, contingencies, contractors' profit, interest during construction, legal expenses, expenses of organizing the company, taxes and insurance, and expense of promotion, and some also include working capital and going value (see *Whitten Valuation of Public Service Corporation*, Sec.240). Mr. Lea, however, has taken a part of what is

usually classified with overhead charges, and has made a separate item of it, which he denominates "Organization and Legal Expense," in which he includes preliminary investigation, preparation of articles of incorporation, making and certifying abstracts, drawing and examining contracts, general retainer fee, salaries of manager and clerical force for two years during construction, incidental and traveling expense for two years during construction, rent and stationery for two years during construction, aggregating $33,000 (see subdivision "A," Exhibit "7," p. 1300, printed record). He has also separately stated his working capital and going value. We are therefore to remember, in comparing Mr. Lea's item of overhead expense with amounts and percentages allowed by courts, commissioners and other engineers for "overhead cost," that Mr. Lea has separated the items ordinarily included in overhead expense into at least two divisions: one, "organization and legal expense," and the other, "engineering, etc.," the last being set out in subdivision "C" of his Exhibit "7" (p. 1301, printed record) and itemized by him as follows:

Engineering and supervision	6%
Casualty liability	2%
Taxes and loss of interest during construction	4%
Omissions and contingencies	4%
	16%

Neither are the intangible elements of working capital and going value included under this head. He adds this 16 per cent to his "net construction cost" of all physical equipment except real estate and items going into working capital. Alton Adams allows 7 per cent for "engineering, interest, taxes and general," which, for 1907, amounts to $23,740 (Exhibit "180," p. 1397, printed record), and, as of January 1, 1913, amounts to $36,084 (see Exhibit "231," p. 1443, printed record, also p. 945, prited record). It is to be remembered,

however, that Mr. Adams, in his figures for reproduction cost of all physical equipment, says that he has made them high enough to include such items as contractors' profit, contingencies and omissions, and liability insurance. In other words, his estimates are based upon actual prices and contracts for construction, and installation of equipment,—that is, prices at which contractors are willing to install, and do install, and construct, the several parts of a gas plant,—and they necessarily involve and include contractors' profit, and all of the hazards incurred by a contractor on account of omissions and contingencies, and for such liability insurance as the contractor sees fit to carry.

This matter of overhead cost, like all other intangible elements included by engineers in appraising public service plants, is one that has been greatly overworked. There being no exact criterion, aside from the actual expense incurred by the company for the items involved (and these are seldom produced), it is very easy for engineers to expand and enlarge this item to such proportions as to make it practically impossible to sustain any rate established by a rate-making body. That this is the case is coming to be recognized by courts and engineers. They are coming to recognize that the customary percentages allowed by valuators for this item of "overhead expense" bears no just relation to the actual expense incurred where such actual expense can be discovered. In this connection we quote the following from *Foster on Engineering Valuation of Public Utilities and Factories*, pp. 20-21:

> "It is a question in the writer's mind if engineers are not carrying overhead charges to extremes, for in many cases of actual charges to properties constructed, when strict account has been kept, the total of items that may have bee considered chargeable to this account is very much less than the percentage frequently used. A study of the cost of street railways as shown

in the Reports of the Massachusetts Railroad Commission will aid very much in determining the true percentage to charge. These items are all examined by the commissioners before being allowed as overhead charges, and in the great majority of cases are charged against the railway division of accounts, no charges of any similar nature appearing against any other division. The sum of all the items that could be counted as overhead charges in the twenty-five million dollars for the equipment of the New York subway amounted to less than six per cent. This included interest during construction, insurance, engineering, taxes and all contingencies. It is time for engineers to bring forward actual figures for these items, actual expenditures for overhead charges, for at present they seem to be far too high—even those offered by the most experienced engineers. As a matter of fact, it is found that in very few new projects are accounts so kept as to reveal the overhead charges."

The following quotation from section 240, *Whitten, Valuation of Public Service Corporations*, recognizes the same tendency:

"In most cases a company should be able to substantiate its claims for overhead allowances by actual vouchers and other records of such expenses incurred in the construction of the plant. There is no necessity for leaving this matter entirely to expert opinions as to such costs, based on somewhat hypothetical conditions of assumed reconstruction."

In section 245, *Whitten on Valuation of Public Service Corporations*, reference is made to the case of *Columbus Railway & Light Company* v. *City of Columbus*, where the master's report recommended a total allowance of 9.8 per cent for total overhead charges.

At the former trial of the instant case, Judge Munger allowed a total overhead charge of 7.7 per cent, which included $3,000 (six-tenths of one per cent) for cost of organizing the company, which we claim is not a legitimate item. If this last mentioned item is eliminated, the allowance by

Judge Munger at the former trial for overhead charges would be 7.1 per cent, which substantially agrees with the allowance made by Mr. Adams.

Halbert P. Gillette, consulting engineer to the Washington Railroad Commission, made an appraisal of the railroads of that state in 1908. He went to the books and records of the several companies and got the original items entering into the overhead expense. And the sum total of all the overhead items and the percentages for each of the roads, and the various items icluded are set out in a table, on page 21 of *Foster on Engineering Valuation of Public Utilities and Factories*, as follows:

OVERHEAD CHARGES AS DETERMINED FROM THE BOOKS AND ACCOUNTS OF ORIGINAL COST OF THE RAILROADS IN THE STATE OF WASHINGTON BY H. P. GILLETTE.

ITEMS	Gt. N. 767.75 Miles Per Cent	Gt. N. 488 Miles Per Cent	W. & Gt. N. 83.9 Miles Per Cent	F. & S. Ry. 132.3 Miles Per Cent	S. & N. Ry. 131.5 Miles Per Cent	N. P. R. R. 1645 Miles Per Cent	C. R. & N. 501 Miles Per Cent
Engineering	2.50	3.23	4.40	3.56	3.50	5.51	2.83
Gen. expense	.28	.26	.08		1.00	1.22	.48
Legal expense				3.55		.01	.02
Insurance			.01	.06			
Int. on advances	.93	1.23	3.25				
Bond interest during construction	2.44	3.84			5.25	13.60	2.61
Bond expense	.10	.18					
Taxes	.02		.17				.05
Undistributed acct.						.91	2.64
Total percentage	6.27	8.74	7.91	7.17	9.75	21.25	8.63

Reference is made to the valuation of the Washington railroads in section 258 of *Whitten on Valuation of Public Service Corporations*, in which he says the appraisal of the railroads allowed 6.9 per cent for overhead charges. With reference to the practice of the Wisconsin Railroad Commission, relative to this matter of overhead charges, *Whitten on Valuation of Public Service Corporations*, section 262, says:

"In valuations made by the Wisconsin Railroad Commission for rate regulation or for municipal purchase, the general rule as to water, gas and electric plants has been to allow 12 per cent on the total inventory—reproduction—cost to cover engineering, superintendence, legal expenses, interest during construction and contingencies. The 12 per cent allowed is not usually segregated between the above items, but in certain cases the Commission has said that the 12 per cent allowance was made up of 5 per cent for engineering and superintendence, 4 per cent for interest during construction, and 3 per cent for legal expenses, organization, casualties, commissions, etc. In a few cases the total overhead charge has been 10 per cent, but 12 per cent seems now to be the general rule. In certain cases the companies have contended strongly for a higher percentage, but the Commission has rejected the demand."

The books of this Company do not disclose any actual payments for any of these overhead costs. Of the enormous sum which the Company claims has been added to this plant, since 1907, not one dollar is shown to have been paid, either by the Company's books or by the testimony of its witnesses, for engineering, supervision, casualty insurance, or any other item covered by Mr. Lea's 16 per cent allowance. The fact is that no such items were paid, but that the figures representing any piece of construction or equipment include all of these imaginary and intangible elements.

ORGANIZATION AND LEGAL EXPENSE.

At the former trial of this case, the Company's expert witness, Mr. M. E. Malone, claimed that a reasonable allowance for this item would be $24,950 (see printed record, p. 119).

The Company's expert witness, H. I. Lea, at the present trial, estimated this item at $33,000 (see Exhibit "7"3. The items going to make up this sum are set out in subdivision "A" of Exhibit "7," as follows:

Preliminary investigation	$ 3,000.00
Preparing articles of incorporation, making and certifying abstracts, drawing and examining contracts, and general retaining fee	7,500.00
Salaries of manager and clerical force during construction (two years)	18,000.00
Incidental and traveling expenses (two years)	2,500.00
Rent and stationery (two years)	2,000.00
	$33,000.00

The court, at the former hearing, allowed $3,000 for organizing the Company (see p. 24). We contend, however, that this item has no place in a valuation of the Company's property for rate making purposes, as the public is not concerned with who owns or operates the plant, and should not be required to pay a higher rate merely because the service is being furnished by a corporation, than if furnished by an individual. This was the position taken by the supreme court of Iowa in *Cedar Rapids Gas Light Company* v. *Cedar Rapids*, 144 Ia. 426, 120 N. W. 966, 138 A. S. R. 299, where the matter is disposed of thus:

> "Nothing can be allowed for the promotion and organization of the company, for it is immaterial by whom the plant may be owned in estimating its value."

See, also, *Cumberland Telephone & Tel. Co.* v. *City of Louisville*, 187 Fed. 637, where all so-called "overhead charges" are excluded, the reason for such exclusion being stated by Judge Evans as follows:

> "Overhead charges consist of expenses much of which were incurred long ago. Probably those expenses may have added very materially in increasing the present value of the plant. That present value we must ascertain, but it does not follow that 'overhead charges' as a separate item should be included as such. It seems to us that they are too intangible to be available for that purpose."

In *Knoxville* v. *Knoxville Water Co.*, 212 U. S. 1, 53 L. Ed. 371, the lower court had included $10,000, on a total cost of $608,000, to cover "organization, promotion, etc.," and Mr. Justice Moody refused to express an opinion as to the propriety of including this item, but left the question open to be considered when it necessarily arises.

We find no court decision authorizing the inclusion of this item as part of the value of a public service property, at all events no such extravagant sum could be allowed for this item as claimed by the Company. Judge Tibbetts, at the former trial, testified as to the reasonable expense of organizing the Company, including legal services, and fixed it at $500. (P. 246, printed record).

The allowance of $3,000 made by the court at the former hearing was amply large to cover this item, if it is proper to include it. We wish, also, to call attention to the fact that this item, when considered at all, is usually dealt with and treated by engineers as an overhead expense. Mr. Lea, however, for some reason or other, has seen fit to make it a separate item, apart from, and in addition to, his 16 per cent added as overhead expense to his "net construction cost" of all physical property, except real estate and working capital (see Exhibit "7-C," p. 1303, printed record).

The substantial difference between the master's present valuation of complainant's property and that fixed by complainant's principal expert, Henry I. Lea, results as we have pointed out, not from any very radical difference in their respective figures as to reproduction cost, but to the disallowance of certain items, such as paving over mains, and to the application of different theories as to the intangible element. There are, of course, reasonable limitations when it comes to estimating the value of physical property, but when it comes to valuing the intangibles, such as work-

ing capital, overhead charges, and going value, there seems to be no limitation at all. Engineers seem to be disposed to place their figures on such items wherever the emergencies of the case may require. If we include going value and working capital among the intangible elements, (and this, of course, we must do in the case of going value), then the valuation claimed by the company in this case for the intangible elements through its expert, Mr. Lea, is considerably over half of the total net construction cost of the physical property. To illustrate: Mr. Lea's total reconstruction cost is $1,306.075. Of this sum $461,672 represents intangible elements including working capital and going value. He has scattered his intangible items throughout his valuation and subdivided and disguised them in such a way that it is somewhat difficult to discover them. He has cunningly avoided stating the sum allowed in dollars in most instances. It is only by going to the different parts of his report, and especially subdivisions "B" and "D" of his exhibit "7" and by making certain calculations that we are able to ascertain his allowances in dollars. To illustrate:

	Net Construction Cost	Reproduction Cost
Real Estate	$ 21,700	$ 21,700
Buildings	35,614	41,312
Works Equipment	218,358	253,298
Distribtuion System	568,731	659,727
Total	$844,403	$976,037

The difference between the first of the above totals and the second is $131,634, which represents the intangible elements produced by Mr. Lea's 16% allowance for engineering, supervision, etc., in connection with the last three of the above items. This $131,634 nowhere appears in Mr. Lea's report as a separate item, it is simply referred to as a percentage.

The intangible items included by Alton D. Adams and Mr. Lea respectively in their valuations may be set down thus:

	Per Adams	Per Lea
Engineering, interest, etc	$36,084	$131,634
Organization and legal expense		33,000
Working capital	20,239	72,038
Going value		225,000
Total intangibles	$56,323	$461,617

	Per Lea
Construction and overhead cost	$1,306,075
Deduce intangiblest	461,672
Leaves net construction cost	$ 844,403
Per cent of intangibles to net construction cost of tangible property	54.6

To illustrate the quantity of intangible value included in the 1913 valuation after taking off depreciation we submit the following table:

PRESENT OR DEPRECIATED VALUE AS OF JANUARY 1, 1913.

	Adams	Lea
Engineering, interest, etc	$ 27,198	$ 107,776
Organization and legal expense		33,000
Working capital	20,239	72,038
Going value		225,000
Total value intangible items	$ 47,437	$ 437,814
Value of construction of plant	388,547	695,300
Total	$435,984	$1,133,114
Per cent of intangible to construction value, (after depreciation)	12.2	62.9

To obtain the $695,300 for Mr. Lea's plant construction the value of the buildings, works equipment and distribution system given by Mr. Lea, amounting to $781,376, is divided by 1.16, in order to eliminate his 16% which gives us $673,600. and to this is added Mr. Lea's real estate valuation of $21,700, which gives us the $695,300.

The $107,776 for engineering, etc., is obtained by subtracting the $673,600 from the $781,376 above named. It will be seen that in the total figures for plant construction Mr. Lea has included $437,814 in his depreciated or present value for January 1, 1913, for intangibles.

The manner in which Mr. Lea reaches his remarkable total for overhead cost appears more plainly from the details in the following table, which are taken directly or derived by computation from his, so called, report. These details have been grouped, as nearly as possible, into three classes covering respectively all costs in the nature of engineering and supervision, all general costs incident to construction, and interest and taxes, besides working capital and going value.

Four items mainly in the nature of engineering and supervision, which obviously contain duplicate charges for the same work, are said by Mr. Lea to cost $77,862 or 9.22 per cent of the construction. General items of cost are placed by Mr. Lea at $53,862, or 6.38 per cent of the construction, and he adds another $32,908 for interest and taxes during two years, making a total of $164,632 for engineering, interest and general cost, or 19.49 per cent of construction cost:

ITEMS OF OVERHEAD COST PER MR. LEA.

Cost Items	Total	Per Cent of $844,403 Construction
Preliminary investigation	$ 3,000	
Incorporation, drawing, contracts, etc.	7,500	
Manager and clerical force on construction	18,000	
Engineering and supervision	49,362	
Total engineering and supervision	$ 77,862	9.22
Rent and stationery	2,000	
Omissions and contingencies	32,908	
Casualty liability	16,454	
Incidental and traveling expenses	2,500	
Total general cost	$ 53,862	6.38
Interest and taxes in two years' construction	$ 32,908	3.89
Total engineering, general and interest cost	$164,632	19.49
Working capital	72,038	8.53
Going value	225,000	26.64
Total overhead cost	$461,670	54.66

10. Working Capital.

The master allowed $60,000 for working capital, whereas the complainant contends for $72,037.63. The amount allowed by the master is over four times as much as the

amount of necessary working capital ever employed by this company as its records will show. Working capital is, of course, the amount of stock and material on hand, and ready cash currently employed by it in the operation of its business, and which has not yet entered into the physical equipment, or has not been converted into current revenues. Every item of supplies and material on hand and every item of expense incident to operation is necessarily reflected in the operating expenses of the company. If we know what the operating expenses are for a given year we can divide this by 12 and arrive at what the expenses were per month and this will tell us exactly what the company has been compelled to spend from month to month in the operation of its plant, including repairs, supplies, labor, salaries, and current bills and expenses of every kind which must be met by working capital. There is no need of applying fanciful theories nor of indulging in speculation as to what is an adequate working capital for this company. We have its own reports made annually since 1903 in which it sets up its total annual expenses, and these, of course, include everything involved in working capital. It is resolving the doubt in fabor of the company to say that it must have on hand each month sufficient capital lying idle to meet its monthly operating expenses, because many of its bills are not paid monthly, and besides, many of the items included in the operating expenses are excessively large and not proper to be allowed, such, for instance, as the item of $19,000 spent in 1912 for the promotion of new business, and a similar item for the same purpose in each of the years preceding, and also, the excessive executive salaries which have been paid since this suit has been pending, and also, the expenses of this litigation. However, taking the operating expenses just as we find them in the company's report for 1912 namely, $173,689.87 and dividing it by 12 we get $14,474 as the operating expenses for each month. Mr. Phillips, the secretary

and treasurer of the company, stated that the current bills per month during the year 1912 were about $17,000. (See page 758, vol. 3, printed record). It will be seen that Mr. Phillips' estimate was considerably higher than the reports of the company show the average monthly expenses to have been.

It seems to us utterly absurd to say that this company needs and should be allowed a working capital in excess of what the history of the company shows it has actually employed in the operation of the business. We repeat that these operating expenses include every item which the company includes in its estimate of working capital, except the necessary money to pay interest on its bonds, and certainly the public is not concerned with the bond interest item and cannot be required to furnish the necessary capital for that purpose. That a large part of the money included in the estimated working capital of the company is for the purpose of paying bond interest see the testimony of Mr. Phillips, the secretary and treasurer of the company, page 758, vol. 3; Mr. Wettling, page 807, vol. 3, and the General Manager B. C. Adams, page 651, vol. 3, printed record. That bond interest should be excluded.

> See, *Redlands, etc., Water Co.* v. *Redlands*, (Cal.) 53 Pac. 843 (844).
> *Santiago Water Company* v. *City of Santiago*, 118 Cal. 556, 62 A. S. R. 261.

11. Going Value.

The master included in his valuation of the company's property upon which it is entitled to a fair return $40,000 as a separate item for going value. That part of the master's report dealing with going value begins on page 46 of the printed record. Among other things he says:

> "Whether this element of plant value was purchased entirely by earnings below or above a fair return on capital invested is not, as to a portion of the time at

> least, disclosed by the company's records. In other words, it does not satisfactorily appear to just what extent the company's business was acquired at its own expense, and to what extent it was acquired at the expense of the public. The company was, at all times, entitled to a fair return upon its investment, and whatever was received by it in excess of a fair return should go, in some form, to the credit of the public. If employed in the promotion of new business, the value of such business has manifestly no place in the valuation made as a basis for fixing reasonable rates. The records show that between 1906 and 1913 the company paid out of its earnings and charged to operating expenses about $100,000 for the promotion of new business. In view of this fact, I conclude that an allowance of $40,000 for going value is sufficient."

When we come to discuss the operating expenses in a later portion of this brief we shall have occasion to refer to the new business item. At this point we merely call the court's attention to the master's discussion of it on page 49 of the printed record where he mentions the fact that in 1912 the company spent over $19,000 for the promotion of new business and the master, though reducing the amount, still allows $12,000 per annum or $1,000 per month to be included in the current operating expenses for that item alone.

GOING VALUE DISCUSSED

We do not contend that in valuing this property we should proceed as if there were nothing here but the "bare bones" of the plant. We concede that this property is more valuable by reason of the fact that it is in a condition to be operated and is connected up and is being operated as a going concern and has an established business. This added value, however, inheres in the physical property and is one of the elements which enters into its present value as distinguished from junk value. It is our contention that in a rate case no element of purely business value as a separate

item of property should be included as a part of the assets upon which a reasonable rate of return is to be allowed. While the master does not say so in express words it must necessarily be understood that he valued the physical property of the company upon the basis that it formed a going operating plant with an established business. All of the witnesses as to value necessarily had this in mind because they were not valuing junk but were valuing a going plant with an established business. Alton D. Adams, the city's expert, makes his position clear in that respect. At page 871, printed record, he says:

> "I would like to say a very few words in reference to my valuation of this property as a plant in operation to forestall the possibility that I didn't fully cover it in what I said yesterday. I intended to make it perfectly plain that I have valued this Lincoln Gas Plant as a "going," operating plant, going in the sense that it is operating and is to be operated and used, as well as being used, for the purpose of making gas. Now the word 'going' as I understand it, is used in several senses in connection with public service properties and business. When I say I have valued the Lincoln Gas Plant as a 'going' plant I mean simply as an operating plant and suitable to be operated and intended to be operated. There is a 'going value' that attaches to a public service business. As I said yesterday I have not computed that value for the reason, primarily, that I don't think the going value of a public service business is an element to be considered in a rate case, but I want to forestall particularly any inference from my testimony that I value any of the physical properties of the company as junk, or as material to be removed or sold or anything of that sort. I have valued it all as equipment used and useful to be used in the gas business."

That Mr. Adams properly treated the element of "going value" and gave it all the weight it was entitled to in a valuation for rate purposes we think is fully sustained by the subsequent decision of this court in *Des Moines Gas*

Company v. *City of Des Moines*, 238 U. S. 153, 59 L. Ed. 1244, where the rule is stated in the first section of the syllabus as follows:

> "The going value of a long established and successful gas company was sufficiently taken into account in determining the value of the company's property for the purpose of testing the reasonableness of gas rates fixed by municipal ordinance, where the valuation was based upon a plant in actual and successful operation, and overhead charges were allowed for promotion, organization and development expenses."

In the instant case the master not only included in his overhead charges all of the expenses which would be incident to the promotion and development of the original plant but he recognized that, so far as the records of the company disclosed, the business has been developed by large items which have been charged to operating expense and he allowed $1,000 per month in the operating expenses to cover future development of business.

It is to be remembered that there is absolutely no evidence in the record to show any sacrifices were made by this company in the development of the business. The business was established and the pioneer work in developing the business was all carried on by the predecessor of the present company. The rates at which gas was sold prior to the adoption of the ordinance in question were voluntary rates established by the company itself. (See Mr. Foster's cross-examination of Mr. Phillips, secretary of the company, page 761, vol. 3, printed record). It had a monopoly of the gas business and could, and did, fix the rate at whatever figure it saw fit. The rate which was in existence at the time this ordinance was passed was $1.20 per M cu. ft. in case of prompt payment, but those who were delinquent in paying gas bills at the required time were compelled to pay $1.50 per M cu. ft. and those rates were a reduction voluntarily made

by the company from previous higher rates which it had voluntarily established. *It was incumbent upon the company to show that the going value which it asked to have included among its assets was a value that had been created by it out of its own funds.* Upon this point Mr. Justice Day in the *Des Moines Gas Case, supra,* said:

> "In this case, what may be called the inception cost of the enterprise entering into the establishment of a going concern had long since been incurred. The present company and its predecessors had long carried on business in the city of Des Moines, under other ordinances, and at higher rates than the ordinance in question established. For aught that appears in this record these expenses may have been already compensated in rates charged and collected under former ordinances. As we have said, every presumption is in favor of the legitimate exercise of the rate making power, and it is not to be presumed, without proof, that a company is under the necessity of making up losses and expenditures incidental to the experimental stage of its business."

No showing whatever was made, nor attempted to be made by complainant in this case as to what, if any, early sacrifices were made by the company or its predecessors in developing the business, the burden was upon it to do so and the court will not presume that any such sacrifices were made, in the absence of proof, *especially since the business throughout its entire history, prior to the passage of the present ordinance, was conducted under higher rates voluntarily fixed by the company itself.* This court, in the *Des Moines Gas Case*, cited *Cedar Rapids Gas Light Company* v. *Cedar Rapids*, 223 U. S. 655, 56 L. Ed. 594, and quoted with approval the following language therefrom:

> "Then again, although it is argued that the court excluded going value, the court expressly took into account the fact that the plant was in successful operation. What it excluded was the good will or advantage incident to the possession of a monopoly, so far as that

might be supposed to give the plaintiff the power to charge more than a reasonable price. (Citing authorities). An adjustment of this sort under a power to regulate rates has to steer between Scylla and Charybdis. On the one side, if the franchise is taken to mean that the most profitable return that could be got, free from competition is protected by the 14th amendment, then the power to regulate is null. On the other hand, if the power to regulate withdraws the protection of the amendment altogether, then the property is nought. This is not a matter of economic theory, but of fair interpretation of a bargain. Neither extreme can have been meant. A midway between them must be hit."

After calling attention to the fact that the master in the Des Moines Gas case though first disposed to allow an additional $300,000 for going value concluded to exclude it after the decision in the Cedar Rapids case, Mr. Justice Day, in the opinion in the Des Moines case, said:

"While there is a difference between court and counsel as to what the master meant by this, we think it is apparent that he meant to say that, applying the rule of the Cedar Rapids case, he has already valued the property in the estimate of what he calls its physical value upon the basis of a plant in actual and successful operation; for he said that otherwise its value would have been much less."

Going value was similarly treated in *Cumberland Telephone & Telegraph Company* v. *City of Louisville*, 187 Fed. 637, where the writer of the opinion said:

"It is insisted that $50,000 should have been included in the estimate as a distinct and additional enhancement of the value of the plant because of the fact that the company is a going concern. In valuing property of the character of that involved here, it would indeed be looking only at its 'bare bones' not to take into consideration the fact that the company is a going concern. The fact, however, though somewhat unconsciously to themselves, must necessarily, we think have been taken into account by the witnesses who testified as to values. Property under ground or overhead, thinly strung out

over many miles, would have very diminished value were it not in actual use for the purpose for which it was installed. The matter does not appear to have been passed upon in the report, nor, while it is argued in the brief, does any exception appear to be based upon this phase of the case, but we have concluded that this element of value would hardly be susceptible of accurate measurement by and of itself, and we shall consider the fact to be that it was an inherent factor in the estimates made by each witness who testified as to values."

Aside from the fact that there is a total lack of evidence to justify the inclusion of a separate element of going value upon the theory of early sacrifices on behalf of the company, and aside from the fact that so far as the company's records show its present business has been built up by large and extravagant expense for the promotion of new business, which has been included as a part of the operating expenses and paid by the public—over $19,000 in the year 1912—we contend that, upon principle, no element of purely business value can rightfully be included as a part of the property upon which the company is entitled to earn a fair return. The value of an existing business depends upon the amount of the net income. A business with no income would have little or no value. A business with a small income would have a small value, and a business with a large net income would have a value correspondingly large. The amount of the net income of a public utility depends, to a large extent, upon the rate at which its output is sold. The very fact that the company is resisting a reduction of the rate is a confession that it estimates that such a reduction will reduce its net income. It follows that the higher the rate the greater the value of the business, and if we include the value of the business as an asset in fixing rates then whenever the value of the business increases the rate must be correspondingly increased and we find ourselves reasoning in a circle. Such a principle, if applied, would destroy

the rate making power. This was recognized by Mr. Justice Hughes in the Minnesota rate case, *Simpson* v. *Shepard*, 230 U. S. 352, 57 L. Ed. 1511, where he said (P. 461):

> "The value of the use, as measured by return, cannot be made the criterion when the return itself is in question. If the return, as formerly allowed, be taken as the basis, then the validity of the state's reduction would have to be tested by the very rates which the state denounced as exorbitant. And, if the return permitted under the new rates be taken, then the state's action itself reduces the amount of value upon which the fairness of the return is to be computed."

Mr. Hurd, one of complainant's witnesses who testified in this case as to going value, based his testimony on the experience of the company under the old rate. A part of his cross-examination (page 1291, vol. 4, printed record) was as follows:

Q. "Assuming that the rate were to be reduced to $1.00, would it make any difference in the computation, that is, in the net results obtained as to the value of the item 'going concern.?' "

A. "Well, I should say it might, it would be introducing a new factor into the equation; yes, sir."

Q. "That the rate of return is an essential element in this computation, there is no question?"

A. "Yes, sir, it is the vital element."

Q. "So that if you take the rate in force at the present time and the rate which is sought to be enforced by the City, and make a computation with the two different rates you would arrive at two different results?"

A. "Most assuredly, because you would have different factors entering into the calculation. That might be exemplified if you had a losing concern, at present it was losing money, you would have a very different result in the going value than you would have if it was a profitable one, or a concern that was running on a profitable basis."

Q. "So that in that case you would get a different value for 'going concern?' "

A. "Yes, sir."

Q. "That is, in each instance?"

A. "Yes, sir."

Now, is it not apparent that "going value" as defined by the Company's witness, and as estimated by them, is nothing more nor less than an attempt to capitalize future net earnings accumulated at the old rate through an arbitrary number of years? (see Lea's Exhibit "K"). And Mr. Hurd makes it clear that in order to have any "going value" the business must be in successful and profitable operation, and that this depends upon the rate of return. Is not the rate of return the very point which constitutes the issue in this suit? The above quotation from Mr. Justice Hughes lays down the principle that *the value of the use of the Company's property cannot be measured by return when the return itself is in question.*

This court in *Omaha* v. *Omaha Water Co.*, 128 U. S. 180, 53 L. Ed. 991, held that going value was a proper element for which to allow compensation in a condemnation case, but it expressly pointed out that the going value for which compensation was to be made, was the "value of the business, as a going concern." The court also plainly indicated a distinction between a purchase case and a rate case, so far as going value is concerned. We quote the following from that opinion beginning on page 202.

> "That there is a difference between even the cost of duplication, less depreciation, of the elements making up the water company plant, and the commercial value of the business as a going concern, is evident. Such an allowance was upheld in *National Waterworks Co.* v. *Kansas City*, 22 L. R. A. 827, 10 C. C. A. 553, 27 U. S. App. 165, 62 Fed. 853, where the opinion was by Mr. Justice Brewer. We can add nothing to the reasoning

of the learned justice, and shall not try to. That case has been approved and followed in *Gloucester Water Supply Co.* v. *Gloucester*, 179 Mass. 365, 60 N. E. 977, and *Norwich Gas & Electric Co.* v. *Norwich*, 76 Conn. 565, 57 At. 746. No such question was considered in either *Knoxville* v. *Knoxville Water Co.*, 212 U. S. 1, 53 L. Ed. 371, 29 Sup. Ct. Rep. 148, or in *Wilcox* v. *Consolidated Gas Co.*, *supra*. Both cases were rate cases, and did not concern the ascertainment of value under contracts of sale."

In order to escape the logic of the contention presented in the preceding discussion under this subdivision, Mr. Lea, in explaining his theory, carefully avoids stating that the measures his "going value" by the amount of income yielded by the business. That is to say, he refrains from saying that there is so much "going value" in this plant, because it has a profitable business which is worth so much because it is profitable, and is yielding a certain annual net income, but he seeks to arrive at the same result by projecting the present plant six years into the future and theorizing as to what its net income will be during each of these years, and then he creates a hypothetical plant and projects it six years into the future and prophesies that it will cost a certain sum of money to enable this hypothetical plant to overtake the actual plant, and this sum of money that he thinks it will take to enable the imaginary plant to catch up with the imaginary progress of the real plant, is, after being reduced to its "present worth," the amount accepted by Mr. Lea, as the "going value" which inheres in this plant, and its business at the present time. It seems to us that this is but another method of stating the same thing. In other words, if the present plant were projected into the future by a pessimistic engineer whose forecast would indicate that the plant so projected would either lose money, or fail to make any net return, then, certainly, the prospective buyer would waste no time projecting his hypothetical plant into the future for six years or six minutes,

because, if he knew that the then existing plant which he was trying to value for the purpose of investing his money in it, did not make a net return of any amount during the next six years, at the then existing rate, he certainly would not add anything to the value of the physical property by reason of the fact that the plant was a 'g'oing concern." A going concern, in order to be of any additional value over the physical property, must be one *going successfully and yielding a profit to the owner over the operating expenses.* A plant which is going to the "bow-wows" may be a going concern, but there will be no "going value" for which any purchaser would be willing to pay an additional sum, above the value of the physical property.

12. Depreciation.

We have already cited page 44 of the printed record where the master stated that insofar as he relied upon arbitrary hypothesis he applied the straight line method of depreciation. In a previous portion of our brief we have pointed out that the master did not in any instance apply the straight line method of depreciation in its full force to the physical property but assumed that it had been kept in an operating condition by current repairs charged into the operating expenses and that in this way a large part of the depreciation had been taken care of. However, since the complainant makes a vigorous assault upon the straight line method of depreciation and insists upon the application of an entirely different method, we beg leave to discuss at some length the question of depreciation and to compare the straight line method with the method used by Mr. Lea in valuing the property on behalf of the Company.

In a rate case depreciation is to be considered in two different aspects:

(a) In arriving at the present value of the property it is necessary to deduct the amount of depreciation which has accrued up to the time of the valuation, and,

(b) In determining the amount of net earnings which is being realized or will be realized under a given rate, it is necessary to determine how much shall be allowed from annual gross receipts and included in the operating expenses to take care of current depreciation.

(a) AMOUNT TO BE DEDUCTED IN ARRIVING AT PRESENT VALUE

Mr. Lea's method of arriving at the present depreciated value of the physical property is purely fanciful and cannot possibly be applied with any degree of accuracy or justice in valuing plaintiff's property. He undertakes to apply the "sinking fund method," not only in providing for current depreciation, but also uses tables, which are only used by engineers in connection with the "sinking fund method," to find the present per cent condition of the property. This plant has been in existence since 1873. A large part of the physical property is old and greatly affected by depreciation from age, inadequacy and obsolescence. When this plant was installed no provision was made for a sinking fund to take care of depreciation, and therefore there is now in existence no sinking fund belonging to this corporation available for replacing any of the old parts of the plant, nor for taking care of accrued depreciation in any manner. The sinking fund method can only be used to finance future depreciation, and there is no way by which you can take an old plant affected by a large percentage of accrued depreciation and apply the sinking fund method in arriving at its present depreciated value. This method was not designed for any such purpose. The sinking fund method could, no doubt, be applied equitably if installed at the time of the installation of a new plant, provided the rate of interest could be so controlled as not to disturb advance calculations. Assuming

that the rate of interest used in the calculation is the same as that subsequently realized on the sinking fund, then, in valuing the plant in any subsequent year, the value of the physical property at the time of valuation, plus the sinking fund and the accrued compound interest up to that time, would approximate, with reasonable accuracy, the original investment, but a plant which has been in existence for many years, and is greatly affected by accrued depreciation, cannot be valued by the use of any tables worked out to find the present worth of such plants as are supposed to have installed the sinking fund method at the very beginning. Mr. Lea's method, not having been installed here at the beginning of this plant, and there being no such sinking fund to include in the present valuation as offsetting existing depreciation, the sinking fund method cannot be applied here, even though it might otherwise be deemed practicable. The vicious part of this method, as applied to this property, is the fact that by the use of the sinking fund method he obtains an excuse for applying the tables used in connection with that method in finding his "present per cent condition" of the property, and we think this is the reason for his using the sinking fund method in his valuation. We believe that Mr. Lea uses the sinking fund method, not for any advantage it would give the Company in financing future depreciation, but in order to gain the more than compensating advantage of being able to use the tables in finding the "present per cent condition" of the property. The effect of using those tables is to give the physical property a greater *present* value than it actually has. *Past years* do not count as heavily in estimating depreciation by the use of these tables as will be the case with *future* years. By the use of these tables heavy depreciation is to be *looked forward to* subsequent to the rate hearing, but *past years* are considered as having dealt lightly with the property and as not having seriously affected it by way of depreciation.

In order to see clearly how this system works, we call attention to Mr. Lea's testimony on page 401, printed record, dealing with the purifying house. He gives the purifying house an assumed life of fifty years, and finds that it is now twenty-two years old. In other words, twenty-two years of the life of the building is gone, leaving twenty-eight years of remaining life, or, in percentages, 44 per cent of the assumed life of the building has expired and 56 per cent remains; yet, by the use of these tables, Mr. Lea finds that the present per cent condition of that building is 73 per cent. That is to say, according to the normal process of thinking, the average man would say that since 44 per cent of the assumed life of the building has expired, that it had been affected 44 per cent by way of depreciation, and that there would be but 56 per cent of its value remaining, but by the use of Mr. Lea's tables, in arriving at the present per cent condition, he is able to gain 17 per cent and runs it up from 56 per cent to 73 per cent. His explanation for this is found at the bottom of page 401, where he says: "Because the depreciation does not occur in a straight line. Your depreciation accrues very much slower in the first half of the life of any equipment than it does in the last half. A piece of machinery having a life of fifty years and only twenty-five years old will be very much more than one-half of its original value." One difficulty about that explanation is that it has no basis in actual experience. It is purely fanciful. Another objection to it is that it has nothing to do with the use of the tables for finding the present per cent condition of a public service plant, which has been in the past, and is at the present, taking care of depreciation by the sinking fund method. Those tables have nothing whatever to do with the matter of whether depreciation occurs more rapidly in the later years than in the earlier years, and that assumption does not, in any degree, enter into those tables. It may be that an old plant or an old piece of equipment of any kind may have the same present efficiency

and the same earning power as if new, and yet that does not say that the plant or the equipment has not depreciated. The depreciation is there, wholly regardless of its efficiency or its productive power. The mains in the streets will carry just as much gas and carry it just as efficiently when half of their life has expired as they did when new, yet the mains have depreciated, and any purchaser would say that inasmuch as they will only last half as long as new mains, they are only worth half as much.

Another example illustrating the advantage gained for the plaintiff by the use of Mr. Lea's method of finding the "present per cent condition" of this property is quite clearly shown in his testimony concerning the coal shed, on page 404. He assigns to this shed an assumed life of twenty-five years and he finds that it is twenty-two years old. It therefore has but three remaining years of its assumed life, yet he finds its present per cent condition to be 25 per cent. It will be seen that the actual remaining life of this shed is but 12 per cent of the assumed life, yet Mr. Lea gives its present per cent condition as 25 per cent, thereby more than doubling the present depreciated value of the property. The sinking fund method of financing future depreciation contemplates that the corporation will set aside annually such sum as, put out at compound interest at a rate which it may safely be assumed will at the end of the life of the property or equipment under consideration, yield a sufficient sum to replace the property when it is entirely gone as the result of depreciation. Aside from extensions to the property, the sinking fund, plus the accrued interest, plus the remaining value of the property, will not equal the original investment at any point beteewn the initial date and the objective date, but the power of the sinking fund to accumulate compound interest is necessary to reproduce the investment at the end of the plant life. But as a matter of fact it is doubtful if any company ever did set

aside such a fund and keep it all out at interest from the time of installing the plant to the time it went to pieces as a result of depreciation. So we say that in actual practice the sinking fund method is but a theory and finds no president in actual experience. Even Mr. Lea admits that the theory of the sinking fund method is not ordinarily carried out, but that the Company uses this fund as it needs it to make improvements and extensions.

Mr. Lea testified:

Q. "Well, that would put a public gas company in the loaning business, wouldn't it—money loaning business?"

A. "No, sir; I think they could put the money in their own property; that is the usual practice."

It will be seen that this bit of testimony corroborates Alton D. Adams, the City's expert, as the following extract from his testimony (p. 850) shows:

> "How, then, is the value of a plant, as we say, meaning by plant, all the things engaged in the carrying on of that portion of the gas business, for instance,—how is that to be maintained? The only way it can possibly be maintained is by extending the property in one way or the other. You may extend it by putting in bigger machinery—that is more valuable than the machines were on a certain date, or you may extend it by laying additional new mains, but extend it you must if you are to maintain a value it had on some specific date. And that, of course, is what we mean when we talk about maintaining the value of a plant. * * * If you are going to keep the value of a plant as on a certain day you must extend it, either by longer mains or bigger gas holders, and this principle applies to gas or electric plants or any other aggregation of physical things."

It is true that at the first trial of this case, Professor Bemis, who appeared as an expert witness for the City, advocated this "sinking fund method" in financing *future depreciа-*

tion, but it will be noted that he took this property as he then found it and advocated the application of the sinking fund theory, to take care of depreciation from that time forward.

As against this sinking fund theory Alton Adams says (p. 852):

> "As to which method is usually adopted in actual practice, the universal method in the gas business is to put the money into the plant and keep your plant up and keep adding to it. I have never heard of the wonderful one horse shay method of replacing a plant, where all go out in a wonderful collapse and then replaced by some sinking fund process."

When we undertake to apply the sinking fund theory to an old plant and thereby to adjust past depreciation which has already accrued, as well as to provide for future depreciation, and in the process of doing so we undertake to arrive at the *present* value of the physical property by the use of tables, designed to find the present value of *a sinking fund* which has been provided from the beginning, we are attempting to do something that is absolutely unfair in its results to the public and totally impracticable and impossible of performance. We call attention to the fact that at the former trial the experts of the Company, and also the counsel of the Company, strenuously opposed and ridiculed the theory of Professor Bemis involving the application of the sinking fund method. As opposed to the sinking fund method, Mr. Alton D. Adams, the present expert of the City, has undertaken to value this plant by the application of what is known as the "straight line method" of depreciation, and also to provide for future depreciation by the same method. It treats gas consumers in the earlier stages of the Gas Company the same as gas consumers in the latter stages. They all have to bear an equal annual proportion of the depreciation, which is constantly going on in the plant. No such results come from the appli-

cation of the "straight line method" of depreciation as postponing the heavy burden of depreciation to future generations, but each generation, and the gas consumers of each year, bear their fair share of the depreciation.

Foster, in his work entitled "*Engineering Valuation of Public Utilities and Factories,*" on page 170, says:

> "By far the most commonly used method of depreciating machinery and plant is that known as the straight line. By this method a length of life of the particular apparatus under consideration is estimated and determined by the best experience and good judgment available, then this length of life divided into 100 will give the rate at which the depreciation is to be figured; that is, the rate per cent per annum, or the annual rate at which the depreciation is to be computed. If the life of an engine is assumed to be twenty years, then its cost new will be depreciated one twentieth of such cost each year, or at the rate of five per cent per annum on the original cost new.
>
> "While this method is in itself an assumption, yet it does away with all side assumptions or guesses as to how much the machine is depreciating each individual year. It is the method used by many of the public utility commissions, by the courts, most generally by public accountants, and by far the greater majority of engineers."

On page 171, in relation to the sinking fund method, he says:

> "This plan is based upon the assumption that a fund is to be laid aside annually to cover the depreciation. At the end of the year a certain amount of money, as determined from sinking fund tables, is deposited at interest, this interest is annually compounded and the regular contribution is added to it, the whole sum drawing interest at the regular rate for the ensuing year, when, the interest for the year just past having been added, the regular contribution is again made; and so it continues until the assumed period of life of the object or apparatus has come to an end, when there should be on deposit a sum equal to the first cost of the apparatus less the scrap of salvage value.

"Two factors have to be predetermined in this case, first the length of life it is presumed that the object to be depreciated will last in good serviceable condition or until is usefulness has disappeared; second, the rate of interest that can be secured for the deposits, the interest to be compounded each year at the time the annual contribution is made."

Hayes, in his work on *Public Utilities,* section 139, says:

"When the property of a public utility consists of plant alone, the loss in value must be determined by the straight line method, and when the property consists of plant and depreciation reserves, the loss in value must be ascertained by means of what has been called the sinking fund method."

The same author in section 162, says:

"If there is plant alone as representative of the property of the undertaking, the straight line method when age and life have been determined with accuracy, will show the absolute loss in value and consequently this loss in value gives the true depreciation of the property. If the property of the undertaking consists of plant and reserves, the sinking fund method will likewise show the loss in value if properly applied. But the equity of this method has been the subject of much doubt."

In order to verify what we have said in regard to the tables used by Mr. Lea in finding his present per cent condition of each of the items of physical property, we call attention to pages 185 to 189, inclusive, of Foster's work, above cited, where those tables are set out. It will be seen that they are used in connection with the sinking fund theory and they presuppose an assumed rate of interest at which the sinking fund is invested. We can readily understand how the present worth of a fund, which is to mature at a future date, can be arrived at by the use of these tables, and with the assumption of a given rate of interest, but how the present value of physical property can be arrived at in this way, or how any rate of interest has the least possible bearing upon the present

condition of physical property, we are absolutely unable to understand. As we have already said, in order that this sinking fund method, and this system of finding the present per cent condition, or present worth, of this plant could possibly approximate anything like fairness and justice to the public, it would be necessary for this corporation to have at this time an actual sinking fund to be included, and which would be included, in the valuation, and in the present per cent condition arrived at by the use of these tables. These tables involve not only the property, but the fund, and this company has no such fund and these tables are not at all applicable.

In this connection, we call attention to the very clear and rational explanation of the straight line method used and applied by Alton Adams, beginning on page 847 of the printed record. It will be seen that Mr. Adams takes the practical and sensible view of the matter and treats the depreciation as it is actually treated in practice. He says that he knows of no way by which depreciation can be taken care of with the passing years, excepting by the process of making extensions and renewals. That is to say, a given piece of equipment, when half of its life is gone, is only half as valuable as the same equipment new, and the only way that the owner of the property can keep his investment at its new value is to add new equipment by way of extending and enlarging his property. At a given time he may have two pieces of equipment in lieu of the one which he originally purchased, and the present value of the two, less depreciation, may not exceed the new value of one, but his investment is kept intact and unimpaired. If he keeps the same equipment without making any extensions, no matter how much he may do by way of repairing it, and no matter how efficient it may be in its operation and use, its value is affected by age and other elements which bring about depreciation, and the time will come when his investment will cease to have any

value. Looking at the plant as a plant, if we assume, as we must, that the corporation is entitled to collect from the public rates high enough to enable it not only to pay fair returns, but also to keep its original investment unimpaired, the only practical way that this can be done is to make extensions to the property, so that the sum total of the original property, plus the extensions, at any given time will be worth the original investment, or, rather, will equal the sum required to reproduc the original property at the time of valuation.

In order to show the advantage to the Company gained by Mr. Lea's method of dealing with accrued depreciation, whereby the heavy burden of depreciation is postponed to the future, and whereby he is able to give to the property a larger present value than he would be able to fix if he applied the straight line method of depreciation, we have prepared the following table setting out all of the property of the Company, to which Mr. Lea applies depreciation, using the cost, life and ages used by him, but applying the straight line method of depreciation used by Mr. Adams:

TOTAL DEPRECIATION OF LINCOLN GAS PLANT TO JANUARY 1, 1913, USING THE COST, LIFE AND AGE OF ITEMS PER LEA, AND USING THE STRAIGHT LINE METHOD.

PLANT ITEMS	Years Life Per Lea	Years Age Lea Lea	Cost Per Lea	Total Resulting Depreciation Straight Line
BUILDINGS—				
Purifying house	50	22	$ 19,279.00	$ 8,482.76
Generator house	50	5	4,337.00	433.70
Retort house	50	22	8,919.00	3,924.36
Meter Shop and booster house	50	5	3,035.00	303.50
Coal shed	25	22	2,080.00	1,830.40
Oil tank house	50	15	1,807.00	542.10
Oxide shed	20	3	70.00	10.50
Stable and blacksmith shop	25	15	949.00	569.40
District holder booster house	40	3	836.00	62.70
WORKS EQUIPMENT—				
7′ 6″ water gas set	30	1	9,833.00	327.76
7′ 6″ water gas set	30	3	9,833.00	983.28

TOTAL DEPRECIATION—Continued.

PLANT ITEMS	Years Life Per Lea	Years Per Per Lea	Cost Per Lea	Total Resulting Depreciation Straight Line
Water gas condenser and scrubber	30	3	1,414.00	141.39
Operating floor	50	3	2,380.00	142.80
6′ 6″ water gas set	30	12	9,364.00	3,745.20
6′ 6″ water gas set, Springer	30	22	5,790.00	4,246.00
Operating floor	50	12	2,170.00	520.80
No. 7 Sturtevant blower	25	5	316.00	63.20
No. 7 Sturtevant blower	25	4	324.00	51.84
No. 1 Roots blower	25	12	317.00	152.16
No. 8 Sturtevant turbo blower	20	4	1,665.00	333.00
No. 8 Sturtevant blower	25	4	525.00	84.00
No. 6 Roots exhauster	30	21	918.00	642.60
No. 6 Sturtevant exhauster	30	5	401.00	66.80
10″ McKenzie exhauster	30	21	510.00	357.00
4″ x 5″ Greenfield engine	20	15	278.00	208.50
5″ x 5″ Sturtevant engine	20	5	313.00	78.25
7″ x 6″ Sturtevant engine	20	4	426.00	85.20
40 H. P. motor	20	7	760.00	266.00
35 H. P. motor	20	10	657.06	328.50
Countershafting, etc.	25	21	89.00	74.76
6 benches 6's	25	2	20,872.00	1,669.76
Charging floor	50	15	2,830.00	849.00
4′ 6″ x 25′ 0″ condenser	30	22	883.00	647.46
5′ 6″ x 31′ scrubber	30	22	477.00	349.80
4′ 6″ x 5′ 0″ rotary scrubber	30	22	2,460.00	1,804.00
4 20′ x 24′ x 4′ purifying boxes	30	11	15,182.00	5,566.66
10′ station meter	40	11	4,525.00	1,244.32
6′ station meter	40	30	1,575.00	1,181.10
500,000 cu. ft. gas holder	40	5	51,023.00	6,377.85
200,000 cu. ft. gas holder	40	23	29,138.00	16,754.35
50,000 cu. ft. gas holder	40	31	12,074.00	9,357.35
20″ Connelly governor	50	21	974.00	409.08
12″ Reynolds governor	30	4	481.00	64.12
6″ x 10″ x 5″ x 10″ Knowles pump	20	10	418.00	209.00
3″ x 4″ vertical pump	20	20	186.00	186.00
3½″ x 4″ x 6″ Gardner pump	20	6	104.00	31.20
4½″ x 3¾″ x 4″ Worthington pump	20	2	116.00	11.60
4½″ x 2¾″ x 4″ Gardner pump	20	4	110.00	22.00
4½″ x 2¾″ x 4″ Worthington pump	20	4	110.00	22.00
3″ x 2″ x 3″ Worthington pump	20	1	99.00	4.95
6″ x 4″ x 6″ Warren pump	20	20	186.00	186.00
2½″ x 3″ x 4″ Marsh pump	20	4	93.00	18.60
Otis platform elevator	20	4	1,230.00	246.00
Fairbanks scale	15	5	70.00	23.00
Photometer	10	7	522.00	365.40
Calorimeter	10	3	244.00	73.20
No. 90 drill press	15	5	52.00	17.30
Shop tools and miscellaneous	15	8	536.00	285.84
4 steel tar tanks	40	7	882.00	154.35
Tar separator	40	7	208.00	36.40

TOTAL DEPRECIATION—Continued.

PLANT ITEMS	Years Life Per Lea	Years Age Per Lea	Cost Per Lea	Total Resulting Depreciation Straight Line
3' 3" x 3' 3" x 10' 10" tar well	40	21	121.00	63.62
6' x 20' x 12' tar well	40	15	548.00	205.50
2 steel tar tanks	30	5	1,841.00	306.30
2 steel oil tanks	30	7	2,152.00	502.11
2 steel oil tanks	30	10	1,415.00	471.60
Brick oil tank	40	15	264.00	99.00
Drain piping	30	10	1,952.00	650.60
Water piping	20	9	952.00	428.60
Oil piping	20	6	514.00	154.20
Gas yard mains	40	12	7,830.00	2,349.00
Steam piping	20	8	3,082.00	1,232.80
Tar piping	20	12	680.00	408.00
Work tools	10	3	696.00	208.80
Main office furniture and fixtures	20	3	9,983.00	1,497.45
100,000 cu. ft. gas holder	40	3	21,675.00	1,625.61
Water piping district station	20	3	250.00	30.75
Gas yard mains district station	40	3	537.00	40.26
Manholes district station	40	3	1,778.00	133.35
25 H. P. motor district station	20	3	491.00	73.65
5 H. P. motor district station	20	3	186.00	27.90
No. 5 Sturtevant blower district station	25	3	209.00	41.80
No. 5 Sturtevant blower district station	25	3	244.00	29.28
DISTRIBUTION—				
Street mains	35.95	10.32	373,821.00	107,314.79
Street mains miscellaneous	11.26	10.32*	21,086.00	19,321.10
Services	25	7.4	151,773.00	44,924.80
Service boxes and cocks	25	7.7	12,839.00	3,954.41
Service governors	25	4.8	23,628.00	4,536.57
Meters	25	9.3	76,580.00	28,487.76
			$954,337.00	$296,346.06

* Used same years ages as street mains.

The foregoing tabulation will show that Mr. Lea's present value of buildings, works equipment and distributing system, would be $657,911 if he had applied to his reproduction cost the straight line method of depreciation. By the use of his sinking fund theory, however, he gets for the present value of the same property $781,376, or a gain of $123,385, merely by selecting a favorable method of depreciation. And, as we have shown, he was obliged to reject the method which Mr. Foster in his work already cited says is the one almost universally used by engineers and commissioners, and accepted a method seldom if ever followed by any court or commission.

ANOTHER APPLICATION OF STRAIGHT LINE DEPRECIATION TO LEA'S VALUES.

Applying the straight line method of depreciation to all of the tangible property, except real estate, belonging to the complainant, using Mr. Lea's ages and assumed life in all cases, we find that the total amount of depreciation equals 31.5 per cent of the total reproduction cost.

Eliminating all paving over mains and services and services paid for by consumers and applying the same method in ascertaining the accrued depreciation we have the following:

Tangible property (see Exhibit "425-A, p. 1368) Lea		$928,423
Deduct:		
Real estate	$19,320	
Paving over mains and services (Exhibit "425-E," p. 1372)	146,082	
Services paid for by consumers	33,789	199,191
		$729,232
Deduct 31.5 per cent for accrued depreciation on straight line theory		$229,708
		$499,524
Add:		
Correct Lea value of real estate		18,520
Working Capital found by Master		60,000
Going Concern value found by Master		40,000
Present Value, January 1, 1913		$618,044

This is $58,521 less than the valuation found by the master.

(b) Provision for Future Depreciation.

Beginning on pages 1195-1200, Alton Adams explains his system of taking care of future depreciation, identifies and explains Exhibit "430," "430½" and "431." In Exhibit "430" (p. 1632) he states the amount of annual depreciation

estimated on his new cost of the Company's property as he found it to exist in each of the years 1907-1912, both inclusive. The first column of the exhibit gives the years. The second column gives the amount of annual depreciation for each of the years, which is arrived at and explained in Exhibit "431" (p. 1633) by taking each of the items of property owned by the Company at the end of the particular year, determining when it was installed or purchased, assigning to it an assumed life, estimating its new cost, and dividing the new cost by the number of years of assumed life, he gets the annual depreciation of that particular piece of property. These amounts of annual depreciation on each piece of property owned at the close of the particular year, are added together, as shown in Exhibit "431," which is carried forward into the second column of Exhibit "430" as the total annual depreciation of the Company's property for that particular year.

Now Mr. Adams in his estimate of operating expenses has allowed 9 cents per thousand cubic feet of gas sold to cover repairs, renewals and depreciation. In his Exhibit "430½" (p. 1632) the first column gives the years from 1907-1912 and the second column gives the M feet of gas sold during these said years. Taking the number of M feet of gas sold during any particular year and multiplying it by .09 we get the amount placed in the third column of Exhibit "430" to cover the amount which Mr. Adams says is ample to cover all items of repairs, renewals and depreciation for that particular year. Now, if we deduct the figures in the second column of Exhibit "430" opposite a particular year from the figures in the third column for the same year the remainder will be the figures in the fourth column showing the excess resulting from allowing 9 cents per M feet of gas sold, over the actual amount necessary for depreciation and renewals for that year, which excess, Mr. Adams says, is more than sufficient to cover the ordinary items of repairs. Let us take the year

1907 for example: Mr. Adams finds that the Company sold, in that year 179,366 M ft. of gas. Multiplying this by 9 cents we get $16,142.94, the amount placed in the second column of Exhibit "430," to cover repairs, renewals and depreciation. Now, in order to arrive at the amount which will be left for the item of repairs, we deduct $6,962.74 found in the second column, being Mr. Adams' estimate of depreciation and renewals for that year, from the $16,142.94, found in the third column of Exhibit "430," and this leaves us the figures opposite 1907 in the fourth column of Exhibit "430," as the excess resulting from allowing 9 cents per M ft. of gas sold in 1907, which excess is available for taking care of ordinary repairs. Exhibit "430½" deals with the same matter, except that the results are reduced to cents per M cubic feet of gas sold. It will be seen that the fourth column of Exhibit "430½" reduces the third column, or annual depreciation for the respective years, to cents per thousand cubic feet of gas sold, and the fifth column reduces the excess remaining in the sum produced as the result of multiplying the amount of annual sales by 9 cents and deducting from the product the amount allowed to take care of depreciation and renewals. It will be noted that in this last column of Exhibit "430½" the amounts remaining in the respective years to cover repairs run from 4.35 to 5.12 cents per M feet of gas sold, and Mr. Adams testifies that, from his investigations of this plant and other plants, and his experience and study of the matter, 3 cents per M cubic ft. sold would be ample for ordinary repairs. So it will be seen that in Mr. Adams' estimate of 9 cents per M cubic feet of gas sold to take care of depreciation, renewals and repairs, the amount allowed is ample to cover these items and to protect the company against any possible mistakes that might arise from understating the new cost, or overstating the probable life of a given piece of property.

In this connection we call attention to Adams' Exhibit "307" (p. 1495-6, vol. 5) wherein he shows a total reported

by the company as having been spent for repairs and renewals for the years 1903 to 1912 inclusive, and has reduced the sums so expended to cents per M cubic feet of gas sold in each year. Exhibit "309" (p. 1496-7, vol. 5) gives the details as to the particular parts of the plant upon which this money was expended. Take the year 1903 on Exhibit "309" for example: By reading to the right we find certain sums of money set in various columns under different headings such as buildings, gas benches, etc., and finally in the last column of the second sheet of the exhibit the total spent for that year in repairs and renewals is shown to be $5,912.21 and this total is carried back into the third column of Exhibit "307" after the year 1903 and this then is reduced to cents per M cubic feet and the result is placed in the last column of Exhibit "307." The matter is treated in the same way for each of the years. The object of these exhibits is to show what the company has been spending in cents per M cubic feet of gas sold during each of those years as shown in the final column of Exhibit "307." Mr. Adams' explanation of these exhibits may be found beginning on page 975, vol. 3, of the record. Mr. Adams was of the opinion that a considerable portion of the money thus spent was spent for objects other than items of actual repairs, and that quite a considerable portion of the money so spent was spent for renewals and for extensions and insofar as this was done existing depreciation was to that extent reduced. In other words, he maintained that the records of the company indicated that, to a considerable extent at least, the company has been taking care of depreciation over and above what would be a normal expenditure for such repairs as were necessary to keep the plant in operating condition from day to day. To quote from his testimony on page 977, vol. 3:

> "'Repairs' or 'repairs and renewals' is so slippery and so uncertain until we get down close to the matter and examine the things that were done and paid for and

called 'repairs.' In the first place let us take a gas property that is not extended at all in a particular year, is not enlarged I mean, in any way, and no part, that is no complete unit of it, as a machine of some kind, or a length of main or a gas meter is replaced—no unit of that structure is replaced during the year and no unit is added by way of extension or enlargement during the year. Now, in a case of that sort there would undoubtedly be small items of expense to be denominated 'repairs' that must be done and made on the gas property— there would be a screw loose here and a small patch to be put on there, and perhaps a diaphragm to be put in a meter, perhaps a retort to be put on a gas bench, etc., on down the line, but at the end of the year we should have simply the unit structures of machines, and the mains, etc., that we had at the beginning of the year, with no additions to them, and no one of them would have been replaced entirely. Now, there is perhaps an illustration of a simple bare case of repairs pure and simple as such. It is very seldom that the treatment of a gas property stops there in the way of repairs and renewals, but if it does stop there, the property so treated necessarily has shrunk in value during the year. It is impossible, of course, to keep up the value of any physical structure by simply repairing. The only way that a physical structure can be kept up to a given plane of value, assuming an even range of prices of material and labor, is by enlarging the structure. It is impossible to do it in any other way. Enlarge the structure and add some new gas meters in the case of a gas plant, or run another mile of main or build a new holder, or put up a new building, and you may put into the value of that new structure—in the cost of that new structure—that may add enough to offset the shrinkage in value of the rest of the structure. Otherwise, we can not keep up the value of the structure as a whole."

After the above explanation Mr. Adams proceeds to explain (p. 977) that the thing called "repairs" and the thing called "renewals" are generally very much mixed, and that in order to ascertain how much depreciation has been taken care of under these headings in addition to taking care of items of repairs strictly as such it is necessary to see what was done with the money or if this cannot be determined, allow for

repairs such sum as experience shows to be normal and treat the balance as having been applied to renewals and extensions and as having, to that extent, taken care of depreciation, not in the case of any specific article, but in the value of the plant as a whole. Mr. Adams then identifies and explains Exhibits "310" to "319" inclusive. These exhibits show the amount spent under the head of "repairs and maintenance" for the various parts of this physical plant during the years 1903 to 1912 inclusive. And beginning at the bottom of p. 978, vol. 3 of the record, he explains:

> "And so I have figured up here in the way I have indicated the amount they had expended on this property by way of repairs and renewals, and have inquired to see the exact meaning of those figures set down here in Exhibits '310' to '319,' inclusive, the exact items, that is, a description of the items appearing in the gas reports for which these moneys were expended, and it appears from an inspection of these items and from what familiarity I have been able to gain of the property by looking it over, that a number of new and valuable things, in addition to the mere putting on of patches and tightening up of screws and tightening up of hooks and such ordinary repairs,—that a number of new and valuable things were bought to replace the older things that had become, as it was thought, too old to be used. So that, I think in this plant during this period of years 1903 to 1912, in the cost of repairs and maintenance we had a substantial amount of money spent to offset the shrinkage in value of the property aside from what was spent to merely, as we might say, keep the thing going, keep the screws tightened up."

He then calls attention on page 979 to certain of the items in Exhibits "310" to "319" which cannot be for ordinary repairs, but must have been for renewals, and we submit that it requires but an inspection of these exhibits to show that this company has under the head of "repairs and maintenance" spent a substantial sum during these years in replacing worn out and discarded parts of its plant and has charged the same to current operative expense. For instance on Ex-

hibit "311" which shows the "repairs and maintenance" items for the year 1904, it will be seen that $1,113.69 was spent on the water gas apparatus and $1,231.84 on the coal gas apparatus. We submit that no such sums could possibly have been spent unless these machines or appliances were substantially reconstructed and to this extent they were taking care of depreciation out of operating expenses, which, whether proper or not, furnishes no criterion for normal expenses in making repairs, which is the point we are now dealing with. The last item on Exhibit "311,' p. 1472, vol. 4, printed record, is $1,819.97 for setting and removing meters. This includes, not only old meters taken out and new ones put in by way of substitution, but it also includes new meters put in for all new consumers, the cost of which enters into the appraisal by the company of the physical property which is here valued and is capitalized as a part of the plant for which the Company asks a return. Insofar as this item includes the cost of installing new meters for new customers it includes extensions to the plant and forms no part of legitimate operating expense nor does it furnish a criterion for normal expenditures for repairs. We make the same observations with reference to the same items in Exhibit "312," p. 1472, vol. 4, printed record, and also in that exhibit we find $949.45 for street main maintenance and $1,060.36 for "service maintenance." Since very few repairs can be made on street mains underground it is quite probable that some extensions were made and charged to operating expense, which would not be proper, and most of the balance of the item was probably for sections of leaking mains taken up and renewed and thereby depreciation was taken care of. The same may be said of the large items for service maintenance.

Exhibit "313," p. 1472, vol. 4, printed record, has a number of large items which could not possibly have been for repairs. Here again $1,976.09 was spent on the gas benches,

$2,312.47 on the water gas apparatus, $1,125.61 on the coal gas apparatus, and no one will contend that any such sums could have been spent in merely repairing these units of the gas plant. They were overhauled and reconstructed. The water gas apparatus, or at least some definite unit or part of it, was undoubtedly taken out and a new one put in, and the expense run into the "repairs and maintenance" account and spread over two or three years (see Frueauff's evidence, pp. 457-8, printed record).

In Exhibit "314," p. 1472, vol. 4, printed record, we find in the year 1907 another charge in connection with the gas benches of $4,022.24, and repairs to water gas generator apparatus $1,045.52 and for these two items we find a substantial charge in 1908 shown in Exhibit "315," p. 1472, vol. 4, and 1909 shown in Exhibit "316," p. 1472, vol. 4, and 1910 shown in Exhibit "317," p. 1472, vol. 4, and 1911 shown in Exhibit "318," p. 1472, vol. 4. Now as to coal gas benches, Mr. Honeywell at the former trial testified that the three south benches were built in 1901 and were refilled again in 1904. He was estifying in 1907 and he stated (p. 148, printed record):

> "I cannot tell you how many times those arches have been rebuilt, or how many times those benches were rebuilt, but we built the arches and refilled them last year."

He then stated that this expense was charged to "bench repairs" and spread over a period of time which they estimated the benches would last. So it is clear that these items expended in these several years for repairs and maintenance on coal gas benches covered not only repairs, but the renewal of the benches themselves and to that extent took care of depreciation. In fact, this is born out by the testimony of Mr. Phillips at the present trial beginnig on page 1293, vol. 4, printed record. He says that replacements are charged to

operating expenses and that in case of large items of this kind they spread the amount over several months. On this subject he testified:

Q. "Then what is the system of keeping up the plant, the replacing of old apparatus with new, taking out a section of main that has become defective and can not be used and putting in a new section, and taking out an old water gas set and putting in a new, the expense has either been added to your construction account or entered in your operating expense under the items of 'repairs and maintenance?' "

A. "Yes, sir, it has to go into one of the two places."

Q. "And sometimes, as you have said, part of the item is entered in each account?"

A. "Yes, sir."

Q. "And that is the way the company has kept up its plant and kept an efficient and working plant in times past?"

A. "Yes, sir."

Q. "And what is the present condition of the plant, is it in good condition or has it been allowed to run down and deteriorate?"

A. "As far as I know it is in good condition. I am not an engineer and do not know much about that end of it."

Q. "But such condition as we now find it in, and you you say it is in good condition, has been maintained in the manner you have outlined there by adding new articles of construction and entering it in your construction account and adding it to the assets or adding it into current expense?"

A. "Yes, sir."

Q. "Then in your opinion has the amount and sums expended by the company since this present management took charge of it been sufficient to maintain the value of the plant and keep the investment unimpaired?"

A. "It has."

Q. "That is the method employed by this company to to take care of depreciation and keep the plant from depreciating and running down?"

A. "Yes, sir, we call it that."

And that was the view taken of the matter by Mr. Justice Lurton in the opinion handed down in this case when the case was here before. We quote from the opinion, page 363 (223 U. S.):

"The work of reconstructing and replacing old parts by new in a plant of this kind must, in the very nature of things, be going on constantly. Heretofore it seems to have been so well and continuously done that the value of the plant as a whole has suffered less than 1 per cent per annum if the total depreciation be distributed through the more than 30 years of operation. So far as can be now seen, the construction and replacement charges, have up to present time been borne by current revenue, with the result that the revenue remained in the single year of 1907 showed a net surplus of $73,851.83, a sum large enough, if distributed to share holders upon the basis of the value of property engaged in the business as claimed by appellant to have paid a dividend of 10 per cent and about 15 per cent upon the valuation settled by the circuit court.

"There is no finding as to the extent of the application of the revenue of 1907 to reconstruct or replacement as distinguished from current repairs and operating expenses. It is, however, plainly inferable that the revenue of that year was used to the extent necessary. If, in the past, reconstruction and replacement charges have been met out of current expenses, the fact must be taken into consideration, both when we come to estimating future net income and in determining what sum shall be annually set aside to guard against future depreciation. This doubtless influenced the court below in settling upon the amount of $8,000 as a sufficient annual appropriation of income as insurance against future depreciation. But, if the constantly re-occurring necessity to do reconstruction or replacement work was in 1907 met out of the current income of that year, thereby diminishing the net income, the fact should be given weight in estimating future net income; otherwise there will be a

> double deduction on that account first by paying such charges as they occur, and thereafter by a contribution out of the remaining income for the same object."

In view of the testimony of Mr. Phillips above quoted and the testimony of Mr. Alton Adams above cited, the language of Mr. Justice Lurton is quite in point on the matter under discussion. If this company is renewing and replacing its property and charging the same to operating expense, then the gas consumers are, to that extent, already taking care of the item of depreciation, and the amount so spent should either be eliminated from the operating expenses when we come to estimate the net arnings, or should be taken into account when we come to determine the annual allowance to be made from gross receipts to take care of future depreciation.

We wish to make perfectly clear the real difference between the straight line method of estimating depreciation used by Mr. Adams and adopted by the master, and the sinking fund method employed by Mr. Lea, and to point out clearly, if we can, the important difference in the results obtained, not only as to the present value of the property, but as to provisions for future depreciation.

The total amount of accrued depreciation must be deducted from the cost of the plant to determine its fair value. If the amount of depreciation is not correct, the resulting value of plant will be in error to the same extent, for depreciation is simply another name for value lost.

So, too, the true amount of annual depreciation must be known to fix a reasonable rate, for if the allowed depreciation is too small the plant will be worn out before consumers have paid enough to replace it, while if too much depreciation is allowed the company will receive from consumers more than the plant cost.

Obviously, then, the annual payment by consumers for depreciation should just equal the annual loss of value by the plant. This annual loss represents a part of the value of the concrete physical things that make up the plant, and the fairest assumption to both consumers and the company is that the value lost annually by each item of equipment is its total cost divided by its years of total life, both expired and expected. This is known as the straight line method of depreciation.

Mr. Lea, while making some incomplete figures for straight line depreciation, bases all his conclusions as to value on computations relative to a sinking fund that is not, and never was owned by the Gas Company, and has no existence outside of his imagination.

Mr. Lea attempts to measure the annual depreciation of plant items by showing what sum must annually be invested at compound interest to produce a fund equal to the cost of each item at the end of its estimated life, and to measure total depreciation by finding the amount of said fund at the end of a series of years equal to the age of the plant item.

On this basis, 0.89 of one per cent of the cost of a plant item must be invested for depreciation annually to produce an equal fund at the end of a fifty-year life if the rate of interest is 4 per cent, but 0.34 of one per cent of the cost, or half the former amount, will be sufficient if the rate of interest is 6 per cent. So, again, with a life of fifty years for a plant item, the fund supposed by Mr. Lea to represent its total depreciation at the end of twenty-five years is 32.3 per cent of its cost if the rate of interest is 3 per cent, but the fund reaches only 18.9 per cent of the cost if interest is figured at 6 per cent.

This method overlooks the fact that it is not a fund at interest in some bank, but an operating, wearing, depreciating plant that is being valued.

How much more fair and accurate is the simple and reliable rule that depreciation increases uniformly with age, so that when one-half of the life and period of use has expired, one-half of the value is gone.

One advantage of computations gained by the sinking fund method of depreciation is that short life and consequent large annual depreciation may be assumed for plant items, and then the total amount of depreciation for *past years* on the straight line basis can be much reduced by assuming a suitable rate of interest for the fund. Thus Mr. Lea has cunningly selected a combination of plant life and interest rate that gives an annual depreciation of $20,865 and a total depreciation for past years of only $172,961, while straight line depreciation with his own figures for cost, life and age of plant, amounts to a total of $296,346, or $123,385 more. So Mr. Lea saves $123,385 for the value of the plant by substituting the sinking fund method for the straight line method.

The following tabulation furnishes the means of making comparisons between the results obtained by Mr. Adams and Mr. Lea by their respective methods of handling depreciation:

DEPRECIATION AND VALUE LINCOLN GAS PLANT, JANUARY 1, 1914.

Items	Per Alton Adams	Per Mr. Lea
Cost of plant except land.....	$548,947.00	$954,337.00
Total depreciation, straight line..	135,827.00	296,346.00
Cost of plant except land.....		954,337.00
Total depreciation per sinking fund		172,961.00
Value of plant per sinking fund...		781,376.00
Excess of straight line depreciation		123,385.00
Annual depreciation, straight line.	10,914.00	31,639.00
Annual depreciation, sinking fund.		20,865.00

Percentages—		
Total depreciation, straight line...	24.6	31.5
Value of cost, straight line.....	75.4	68.5
Total depreciation, sinking fund..		81.9
Annual depreciation, straight line.	1.9	3.3
Total times annual depreciation, sraight line	12.5	9.3
Total times annual depreciation, sinking fund		8.2

If a public service corporation sees fit to operate its property for a series of years without providing for depreciation, it cannot, in a rate hearing, call upon the public to make good past losses, no matter whether those losses result from mistakes, bad judgment, bad management, or from excessive dividends or bond interest. This point is clearly stated by Mr. Justice Moody in *Knoxville Water Co.* v. *Knoxville*, 212 U. S. 1, 53 L. Ed. 371:

> "To arrive at the present value of the plant, large deductions were made on account of the depreciation. This depreciation was divided into complete depreciation and incomplete depreciation. The complete depreciation represented that part of the original plant which, through destruction or obsolescence, had actually perished as useful property. The incomplete depreciation represented the impairment in value of the parts of the plant which remained in existence and were continued in use. It was urgently contended that, in fixing upon the value of the plant upon which the company was entitled to earn a reasonable return, the amounts of complete and incomplete depreciation should be added to the present value of the surviving parts. The court refused to approve this method, and we think properly refused. A water plant, with all its additions, begins to depreciate in value from the moment of its use. Before coming to the question of profit at all the company is entitled to earn a sufficient sum annually to provide not only for current repairs, but for making good the depreciation and replacing the parts of the property when they come to the end of their life. The company is not bound to see its property gradually waste without making provision out of earnings for its replacement. It is entitled to see that from earnings the value of the prop-

erty invested is kept unimpaired, so that, at the end of any given term of years the original investment remains as it was at the beginning. It is not only the right of the company to make such a provision, but it is its duty to its bond and stockholders, and, in the case of a public service corporation, at least, it is its plain duty to the public. If a different course were pursued the only method of providing for replacement of property which has ceased to be useful would be the investment of new capital and the issue of new bonds or stocks. This course would lead to a constantly increasing variance between present value and bond and stock capitalization,—a tendency which would inevitably lead to disaster either to the stockholder or to the public, or both. If, however, a company fails to perform this plain duty and to exact sufficient returns to keep the investment unimpaired, whether this is the result of unwarranted dividends upon over-issues of securities, or of omissions to exact proper prices for the output, the fault is its own. When, therefore, a public regulation of its prices comes under question, the true value of the property then employed for the purpose of earning a return can not be enhanced by a consideration of the errors in management which have been committed in the past."

13. Revenue.

The amounts listed below are the gross receipts from sales of gas for the respective years and are found opposite page 1716, printed record, at places indicated after each year.

Year	Gross Outside Receipts	Exhibit	Line
1907	$215,776.20	26	910
1908	234,347.51	26	910
1909	245,124.74	27	910
1910	251,492.37	28	910
1911	274,292.95	29	910
1912	282,162.11	30	910

From these amounts should be deducted the gross receipts from the sales of gas for the territory outside of the city limits.

Year	Gross Receipts		For Lincoln
1907	$ 888.00	leaving	$215,776.20
1908	1,554.58	leaving	232,792.93
1909	1,249.58	leaving	243,875.16
1910	2,984.66	leaving	248,507.71
1911	6,270.98	leaving	268,021.97
1912	8,986.00	leaving	273,175.93

To these last amounts should be added the residuals produced and rebates deducted at lines 1606-14 in the Company's operating reports for the respective years the amounts of which will be found below. (See the above Exhibits "26" to "30," inclusive). The years 1911 and 1912 are corrected for the amounts shown in the corresponding years of Mr. H. I. Lea's Exhibit "B" because of an error in computation of residuals for those years. This gives the gross earnings:

Year	Residuals	Rebates	Corrected Gross Earnings
1907	$22,702.13	$1,238.50	$239,716.83
1908	19,272.05	1,243.98	253,308.96
1909	9,389.14	1,073.95	254,338.25
1910	2,737.71	1,524.56	252,759.98
1911	1,168.58	1,177.93	270,368.48
1912	597.49	933.56	274,706.98

It will be noted here that we follow the method outlined by Mr. Lea in his treatment of the revenues of the complainant (see Exhibit "7-P," p. 1386, P. R.), and eliminate the receipts from the territory outside of the city.

In addition to the above revenues the Company receives rent from two pieces of real estate, one of which is near the manufacturing plant and the other near the district holder at Thirty-third and X streets. Also the Company receives items of interest on bank balances and on notes due the Company (see p. 758). None of this interest or rent is reflected in the gross receipts as shown in the testimony in this record. Also the Company receives rentals on certain gas appliances which are included by Mr. Lea in working capital and the complainant's distribution system. None of this revenue is reflected anywhere in the Company's receipts and rightly so as we believe, but by the same token, the property charged into the complainant's capital account as an investment in these appliances loaned should be eliminated from any valuation upon which the public is required to pay a return, but this the master did not do.

The following table shows the gross earnings as corrected, the reported operating expenses, and the net earnings, resulting from deducting the expenses from the corrected gross earnings. It is to be borne in mind that these corrected net earnings are the result of correcting the gross earnings as the company's expert, Henry I. Lea, has done, and deducting therefrom the full amount of the operating expenses reported by the company for each year. As we shall show later these reported operating expenses include many items of expense, such as occupation taxes, excessive salaries, etc., and that the net income shown in this table would be much greater if the operating expenses were reduced by the elimination of improper items.

TABLE OF CORRECTED GROSS EARNINGS, REPORTED OPERATING EXPENSE, AND CORRECTED NET EARNINGS FOR THE YEARS 1907 to 1912 INCLUSIVE.

	Corrected Gross Earnings	Reported Operating Expenses	Corrected Net Earnings
1907	$239,716.83	$144,924.37	$ 94,792.46
1908	253,308.96	137,090.35	116,218.61
1909	254,338.25	134,708.24	119,630.01
1910	252,759.98	143,670.45	109,089.53
1911	270,368.48	158,374.11	111,994.37
1912	274,706.98	175,573.49	99,133.49

14. Operating Expense.

We have already discussed the value of complainant's property as found by the master and the gross income of the company as shown by the records. We now come to the operating expenses. If rate regulation is to be effective at all it is necessary that the operating expenses shall be kept within proper limits. In the following discussion we shall consider:

First: The operating expenses as reported by the company, and,

Second: Deductions which we contend should be made of (a) excessive items, and (b) improper items.

FIRST.

EXPENSES AS REPORTED BY THE COMPANY.

It would extend this brief to unwarranted length were we to set out herein all of the various items of operating expense shown by the annual reports of the company.

At the top of page 1591 of the printed record will be found exhibit "339" which shows the gross income, operating expense and net income of the company for the years 1905 to 1912, inclusive, as reported by the company. That table includes in the first column receipts from gas sold within the city of Lincoln only, but does not include any receipts from gas sold in the suburban cities; the column of expense, however, includes all expense. The next table on the same page is exhibit "340" and was prepared by Alton D. Adams, the city's expert, for the purpose of separating the expense chargeable to the suburban service from the total expense so as to show the proper expense chargeable to the Lincoln service. These exhibits are explained by Mr. Adams on page 984, volume 3, printed record.

The annual gas reports of complainant for the years 1908 to 1912, inclusive, will be found opposite page 1716, volume 5, of the printed record, and are exhibit numbers "26," "27," "28," "29" and "30" respectively.

The master's discussion of the operating expenses will be found beginning on page 48 of volume 1, of the printed record. While the master recognized that a very large number of the items included by the company in the operating expenses were improper and excessive, he did not, in arriving at his conclusion as to the rate, eliminate any of them except the $3,000 salary of Henry L. Doherty, as president of the board of directors, the $600 salary of C. A. Frueauff as New York attorney, and reduced the amount to be spent for promoting new business from nearly $20,000, as the company had it, to $12,000 per year. All of the extravagant items which we shall hereafter point out, and the occupation taxes of $4,466 for the year 1907, which our supreme court has since held to be void and uncollectible, and for the year 1912, $8,195 which our supreme court has held in abeyance until the termination of this litigation, and the expense of

this litigation were all allowed and included by the master in the operating expenses, with the exception of Doherty's salary, the salary of C. A. Frueauff, and the deduction from the new business item to which we have already referred to. The master, however, did not recognize all of the items which we have criticized as legitimate items of expense, but he permitted them to remain just as the company reported them because he found the rate to be valid without their elimination. His comment as to the operating expenses as found, beginning on page 49, is quite suggestive. He says:

> "These figures without much scrutiny show the extent to which the validity of a rate ordinance depends upon individual will, if the right to determine what amount shall be expended in the campaign for new business or for any other purpose in a particular year is committed to the unrestrained discretion of the owner of the utility affected by the ordinance. That full discretionary power to transfer earnings into operating expenses cannot exist consistently with the right to regulate rates seems self-evident. Reasonable expenditures to stimulate business are usual and proper, but an expenditure of between $19,000 and $20,000 in one year, which brings in, as increased revenue, less than $5,000 would seem to be, under normal conditions, excessive, and when it may perhaps become a decisive factor in determining the constitutionality of rate legislation is so extraordinary as to arrest attention and excite inquiry at once. The present litigation was pending; the demand for rate reduction was insistent; the controversy between the public and the company has become acute; the company was about to have its property inventoried and appraised for the purpose of showing that there was an unjust disproportion between its value and its net earnings; in this state of affairs unusual caution and concertative action was, it seems to me, the company's obvious and paramount duty; and yet I cannot discover, either in this particular expenditure or in any other, evidence of a disposition on its part, by judicious retrenchment of expenses or wise economy of any kind to adjust itself to the conditions created by the ordinance reducing rates. It may be the company thought such adjustment was not possible,

but whatever reason controlled its conduct, I cannot regard the expenditure for new business as having been reasonably or prudently made or one that ought, in its entirety, to be allowed or taken into account in testing the enforcibility of the ordinance for 1912. In the exercise of ordinary business prudence and giving due consideration to the rights and interests of the vast consuming public, I think the company should not have expended in its campaign for new business more than $12,000, and that is what I have, for the purpose of this litigation, decided to allow. Reasonable limitations of expenditures must, in cases of this kind, be imposed by the courts or else the power to invalidate legislation regulating rates will pass inevitably from the public authorities into the hands of the owners of public utilities."

Beginning at the bottom of page 50 concerning executive salaries and other extravagant items of expense, the master said:

"The executive salaries, in comparison with those paid by other utilities producing and selling about the same amount of gas, are apparently excessive. I cannot believe the total expenditure for this purpose would have been, under the circumstances disclosed by the record, considered reasonably necessary had the business been prudently conducted with a view to making the cost of gas to consumers as low as good service and fair return upon the capital invested would justify. The operation of a public utility is a business within the scope of government. The company's plant is affected by a public use; the company has, in a qualified sense, taken upon itself, a governmental function, and is, therefore, bound in the conduct of its business to scrupulously regard the rights of the public equally with its own. A majority of the stock of the Lincoln Gas & Electric Light Company is owned and controlled by Henry L. Doherty & Company of New York, a co-partnership engaged in banking and manufacturing and controlling, through stock ownership, over 100 utilities—gas, water, electric and transportation—which it operates in practically the same manner as it does the Lincoln plant. Frank Frueauff became president of the Lincoln company in 1911 at a salary of $2,400 a year and at the

same time—at a time when an increase of operating expenses might be doubly advantageous to him—Henry L. Doherty became president of the board of directors at a salary, newly created, of $3,000 a year. Prior to 1911 Mr. Doherty was president of the company and Mr. Frueauff, as vice-president, performed, without compensation, the same services for which he now receives $2,400. Mr. Frueauff visits Lincoln six or eight times a year; Mr. Doherty, as far as the record discloses, does not come at all. Mr. B. C. Adams, an exceptionally efficient and capable man having a thorough technical and general knowledge of the gas business, is local manager at a salary of $3,600 per year. Of the 108 properties under the supervision of Henry L. Doherty & Company only three or four in addition to the Lincoln plant pay Mr. Frueaug a salary. Whether Mr. Doherty receives a salary in any of them does not appear. Conceding that the Lincoln company may receive prestige as well as financial, educational and other advantages from its connection with Henry L. Doherty & Company, I nevertheless think that the items of $3,000 for salary to the president of the board of directors should, for the purposes of this case, be disallowed. Mr. C. A. Frueauff, a brother of the president, engaged in the practice of law in New York City, receives from the Lincoln company an annual salary of $600, which is charged up as a part of the operating expenses. I think this expenditure, on the evidence given with respect to it, ought not to be allowed or taken into account in the decision of this case. In view of the fact that the company has, in its employ at Lincoln, a lawyer—one of the most capable and eminent in the profession—at a salary of $3,000 a year, it can hardly be reckoned reasonably necessary or prudent and provident management to incur this extra legal expense, especially at a time when it was claimed that compensatory earnings, measured by the dollar rate, were not coming in."

Beginning at the bottom of page 53 of the printed record, the master refers to a certain "free-list" which was maintained by the company whereby it gave gas and electric service to certain prominent and influential citizens (some of them its witnesses as to suitable net earnings in this community) free of charge, and he also refers to certain other

extravagances in the way of donations which are reflected in the company's reported operating expenses. He says:

> "I do not go into the accounts for the years between 1907 and 1912 as the calculations made by Mr. Lea show beyond question that the net income was, for each of these years, from 50% to 100% greater than in 1907. In these intervening years, there are various expenditures growing out of the present litigation which should, if necessary to sustain the ordinance, be deducted from the operation expenses. There are also many items of incidental expense that should be similarly dealt with. These later items are not large in the aggregate and there is small likelihood that they would affect the result in any possible revision of these findings. I, therefore, do not consider them in detail. It may not be out of place, however, to remark that in my judgment a utility corporation engaged as it is in carrying on a public business is bound to be prudent and circumspect in the use of its revenues. It seems hardly consistent with sound principle for such a corporation to maintain a free list or to make expenditures for social or fraternal purposes, or even for the advancement of education, morality, charity or religion, and then lay the burden of its munificence upon non-consenting rate payers. The practice of any cardinal virtue is, of course, wholesome and worthy of all commendation, but when indulged in by corporations it ought in reason to be, as in the case of individuals, at their own cost."

The burden was upon the complainant to show fully and fairly the amount of operating expenses justly and legitimately chargeable to the gas department in the Lincoln service. This corporation not only manufactures and sells gas, but it manufactures and sells electricity. It not only sells these commodities within the corporate limits of the city of Lincoln, but it sells both commodities in suburban cities and distributes them from its Lincoln plant. A very large part of the expense of the corporation is common to both the gas and electrical departments, not only within the city, but to such service as it renders to suburban cities. Complainant attacked this gas rate ordinance before it went

into effect, upon the theory that if the rate went into effect it would result in confiscating its property. Having attacked the rate in advance of a practical test, it assumed the heavy burden, imposed by the rule of this court established in similar cases, of showing beyond all just and fair doubt that confiscation would result if the new rate were permitted to go into effect.

Yet the company has not undertaken to separate the expenses incident to the suburban service from the expenses incident to the Lincoln service. Indeed, it has included all of the property of its gas department whether within or without the city limits, as property upon which it is entitled to a fair return. It has made separate statements of what the cost of its "output expenses" for the suburban business is. No capital charge, however, is made against the suburban business and that business is not made to carry any of the burden of the company's capital invested in the Lincoln manufacturing and distributing plant. Nor is the suburban business charged, as we understand it, with any of the general expenses of operating the company. As we understand it, in the "output expenses" charged to the suburban business in Mr. Lea's report, he has included merely the cost of the labor and materials entering into the manufacturing of gas used in the suburban service and certain expenses incurred at Havelock and University Place in handling the business there. The expense of the East Lincoln holder which was constructed primarily to furnish pressure for the suburban service is borne entirely by the Lincoln plant and no part of the burden is thrown upon the suburban service. The Lincoln plant has not only to manufacture gas, but has to convey it to the city limits free of expense so far as any capital charge is concerned. Nor has the company furnished any basis for apportioning the correct proportion of the capital charge to the suburban service.

As to common expenses incurred jointly in the operation of the gas and electric departments, there is no basis furnished in the evidence to enable the court to make a division unless it be upon the basis of the relative number of consumers in the two departments, or upon the basis of relative earnings of the two departments. These matters we will discuss later.

A public service corporation, when it attacks a rate established by lawful authority, must make a full and fair showing, not only as to its property and income, but, also as to its operating expenses, because the right to regulate the rate necessarily implies the right to control the operating expenses.

In the case of *State* v. *Adams Express Company*, 122 N. W. 691, the supreme court of Nebraska, in the second section of the syllabus, says:

> "When an attempt is made to strike down a rate statute, it is incumbent on the attacking party to make full, fair, and complete disclosure of all of the revenue derived from the business, and the disbursements of the same for all purposes, including salaries paid to all of its officers, agents, and employees, so that it may be determined whether such salaries and expenditures are necessary as well as reasonable in amount."

In support of the above doctrine, in the body of the opinion, Judge Barnes, speaking for the court, quoted from Mr. Justice Brewer in the case of *Chicago & Grand Trunk Ry. Co.* v. *Wellman*, 143 U. S. 339, 36 L. Ed. 176, as follows:

> "Surely, before the courts are called upon to adjudge an act of the legislature fixing the maximum passenger rates for railroad companies to be unconstitutional, on the ground that its enforcement would prevent the stockholders from receiving any dividends on their investment, or the bondholders any interest on their loans, they should be fully advised as to what is done with the receipts and earnings of the company; for, if so advised, it might clearly appear that a prudent and honest management would, within the prescribed rates, secure

to the bondholders their interest, and to the stockholders reasonable dividends. While the protection of vested rights of property is a supreme duty of the courts, it has not come to this that the legislative power rests subservient to the discretion of any railroad corporation, which may, by exorbitant and unreasonable salaries, or in some other improper way, transfer its earnings into what it is pleased to call 'operating expenses' * * * The silence of the record gives us no information, and we have no knowledge outside thereof and no suspicion of wrong. Our suggestion is only to indicate how easily courts may be misled into doing grievous wrong to the public, and how careful they should be not to declare legislative acts unconstitutional upon agreed and general legislative acts unconstitutional upon any general statements, and without the fullest disclosure of all material facts."

The importance of the doctrine above announced is made manifest, in a very striking manner, by the history of the division of the general expenses by this company between the gas and electric departments. At the time of the former trial such of these general expenses as were not divided equally between the two departments were divided on the basis of two-thirds to gas and one-third to electricity and the division was made on the investment basis, the assumption being that the property of the electric department was about one-third as valuable as that of the gas department (see p. 137, printed record, and 768-9 where it is shown that executive salaries, payroll and legal expense were divided equally, prior to May, 1908).

Since the former trial, however, and beginning May, 1908, the company has seen fit, arbitrarily, to change the method of apportionment so that now all of the general expenses, except taxes, are divided on the basis of 20 per cent to electricity and 80 per cent to gas, not on the investment basis as before, but on the basis of consumers, and even this basis is not exactly followed and Mr. Phillips testified that

it would be nearer 75 per cent to gas and 25 per cent to electricity (p. 759). But Exhibit "101," prepared by the company (p. 1849) shows the ratio of consumers in 1912 to be 73 per cent and 27 per cent. There is no reasonable and adequate explanation for this eccentric and capricious conduct and the only fair inference to be drawn is that such a division throws the burden of this expense upon the gas department, where it will do the most good to the company in its effort to defeat this rate. (As to the present method of making this division, and as to when it began, see pp. 768-9).

Not only has the ratio of apportionment between the two departments been thus manipulated against the public during the pendency of this suit, but the general expenses have very greatly and substantially increased without any satisfactory explanation as to the reason. Not only has the actual increase in dollars been very substantial, but the general expenses referred to per thousand cubic feet of gas sold have very greatly and substantially increased in spite of the increased output. Of course, with the increased output, we should expect the actual expenses to increase, but that is quite a different thing from an increase per unit of gas sold. When reduced to the unit of gas sold, then certainly we should expect the general expenses to decline per unit as the output increases. After all, the real test is the cost per unit. There is no other way of making comparisons that will disclose, in anything like a convincing manner, whether or not the general expenses at a given time bear any just relation to the volume of business done. Before we proceed to discuss the expenses incident to the operation of the plant, aside from the cost of manufacturing the gas, we will call attention to the cost of manufacturing gas for the past few years as disclosed by the reports of the company. There are a number of intimations in the old record, and some in

the new, implying that it costs a great deal more to manufacture gas here than elsewhere because of the distance from Lincoln to the field of supplies for gas-making material, and that the cost has increased lately by reason of the advance in the price of certain gas-making materials, particularly oil for enriching the gas. As to the location of Lincoln, it is to be remembered that if it were true that the cost of making gas were substantially enhanced by reason of the distance from the oil fields and supplies of coke, used in the manufacture of gas, and coal for making steam, still, as against this, we urge that a situation of that kind would make this city a better field for the sale of fuel gas, and this would offset, or more than offset, any disadvantage resulting from such location. But it is not true that Lincoln is unfavorably located in the matter of gas making materials. Steam coal, for the manufacturing of steam, can be, and is, procured at the coal fields of Iowa, Missouri, Kansas and Colorado; coke can be procured from Denver, Chicago or Milwaukee; oil can be, and is, procured from the Kansas oil fields. This plant is not making coal gas and the distance from the Pennsylvania coal fields is a matter of no consequence here. As far as steam coal, coke and oil are concerned, we are practically as favorably located as any of the cities of this size in the country, and much more favorably situated than many where gas rates are $1.00 and less. For instance, in the matter of water gas, what advantage over Lincoln has Cedar Rapids or Des Moines, Iowa? In these last named cities the gas rate is 90 cents per thousand cubic feet, and the rate has been upheld. We also believe that Lincoln is as near to steam coal and oil as most of the cities of the east, and certainly the situation is as favorable, as to gas making materials, as any of the towns of Massachusetts. In this connection, we call attention to Mr. Adams' Exhibit "393," printed record 1616, with his explanation of it, beginning on page 3356. It will be noticed that Lincoln,

Haverhill and Fall River are the only cities included in the exhibit where nothing but water gas is made. The generator fuel for Lincoln in 1907 was $5.50, in 1912 it was $5.44 in Haverhill in 1912 it was $5.84, and in Fall River in 1912 it was $5.92. So that, of the three cities shown on this exhibit where water gas alone is manufactured, Lincoln seems to be getting its generator fuel cheaper than the other two. And Mr. Adams introduced Exhibit "432," printed record 1632, showing the cost of coal and oil in gas plants in seventy-two cities of Massachusetts, during 1912, as per Brown's Directory. Brown's Directory is a publication used by gas companies and gas engineers all over the country, and containing accurate gas statistics. This table shows the coal cost per ton, oil cost per gallon, and the candle power and heat units of the gas manufactured in these several cities. According to this table, the coal and oil prices in those cities in Massachusetts average about the same as the Lincoln prices. The price paid for oil by this company, according to the 1912 annual report, averaged 3.15 cents per gallon, which compares very favorably with Massachusetts prices, being higher than some and lower than others. The gas rate in Haverhill is 85 cents and in Fall River 80 cents, as against $1.20 in the city of Lincoln. In Fall River the gas sales in 1910 were 495,612 housand cubic feet, about double the sales in Lincoln, but in Haverhill for that year the sales were 203,360 thousand cubic feet, considerably less than the Lincoln sales in 1912 (Adams' Exhibit "391," printed record 1616). The difficulty with this gas plant does not lie in the price of gas making materials nor in the cost of gas making labor. This is clearly demonstrated by an examination of a part of Mr. Lea's Exhibit "7-L-6," printed record 1352, showing the manufacturing department expenses of water gas. This table covers all expenses of manufacturing water gas for the years 1903-1912, inclusive, and we here reproduce the table:

EXHIBIT "7-L-6." (PRINTED RECORD VOL. 4, P. 1356).

MANUFACTURING DEPARTMENT EXPENSE—WATER GAS.

(Per M. Cu. Ft. Made.)

Year ending December 31st	1903	1904	1905	1906	1907	1908	1909	1910	1911	1912
Steam for generating water gas	$.0286	$.0245	$.0353	$.0356	$.0315	$.0221	$.0112	$.0133	$.0176	$.0151
Generator fuel	.1094	.1055	.1176	.1212	.1090	.1037	.1333	.1155	.1064	.1100
Enricher	.2755	.2638	.1622	.1525	.1551	.1406	.1109	.1010	.0914	.1081
Total water gas making material	.4135	.3938	.3151	.3093	.2956	.2664	.2554	.2298	.2154	.2332
Water gas tar residual account	.0118	.0062	.0019		.0069	.0120	.0119	.0020	.0165	.0128
Net cost water gas mfg. material	.4017	.3876	.3132	.3093	.2887	.2544	.2435	.2178	.1989	.2204
Gas making labor	.0182	.0187	.0199	.0253	.0281	.0285	.0204	.0174	.0159	.0148
Repairs to W. G. gen. apparatus	.0059	.0123	.0181	.0201	.0079	.0071	.0074	.0036	.0022	.0056
W. G. generating house expense	.0009	.0002	.0004	.0006	.0002	.0007	.0008	.0005	.0007	.0015
Total cost generating W. G.	.4267	.4188	.3516	.3553	.3249	.2907	.2721	.2393	.2177	.2423
Steam	.0097	.0082	.0045	.0042	.0066	.0150	.0225	.0199	.0137	.0189
Purifying W. G. labor, expense and rep.	.0007	.0010	.0015	.0054	.0060	.0036	.0019	.0018	.0005	.0011
Purifying W. G. materials	.0019	.0023	.0019	.0019	.0030	.0031	.0028	.0025	.0025	.0024
General works repairs, buildings	.0069	.0013	.0012	.0028	.0019	.0007	.0007	.0010	.0033	.0009
General apparatus repairs	.0123	.0104	.0068	.0083	.0075	.0041	.0047	.0076	.0210	.0017
Sundry labor	.0131	.0088	.0118	.0129	.0170	.0129	.0108	.0134	.0100	.0129
Works expense and supplies	.0078	.0094	.0138	.0126	.0125	.0130	.0108	.0149	.0149	.0216
General supervision	.0098	.0144	.0163	.0161	.0157	.0146	.0135	.0143	.0139	.0138
District holder station								.0001	.0064	.0132
Total cost purification and storage	.0622	.0558	.0578	.0642	.0702	.0680	.0677	.0755	.0862	.0865
Total cost water gas in holder	$.4889	$.4746	$.4095	$.4195	$.3951	$.3577	$.3398	$.3148	$.3039	$.3288

The foregoing table of Mr. Lea, the company's expert, taken from the annual reports of the company, makes it clear that the unit cost of manufacturing gas and storing it in the holder has, on nearly every item, declined during the years covered. The cost of steam has declined per unit, notwithstanding it is sold by the electric department to the gas department, at a price arbitrarily fixed by the company. Generator fuel (coke) was a little higher per unit of gas in 1912 than in some of the previous years, but it was lower than in others. In 1903-4-7-8-11 coke was slightly lower than in 1912, while on the other hand, in 1905-6-9-10 it was substantially higher, but the cost of coal and the cost of steam combined did not equal the oil cost in the manufacture of water gas, as may be seen by a glance at the first three items in this table. The apparent increase in the net cost of generating water gas for 1912 over the two preceding years may be fully accounted for by Mr. Lea's correction of the residual account, (see p. 764) and Mr. Phillips' correction of the alleged coal shortage (see p. 761). Beginning in 1903, the cost of oil per cubic foot of gas gradually declined from $.2755 in 1903 to $.1081 in 1912, so that this company has not been embarrassed by the increase in the price of oil so as to render that element in manufacturing gas an obstacle to the reduction of rates. The three elements just considered, steam, coke and oil, constitute all the gas making material. Mr. Lea gives us his figures on the total of gas making materials per thousand cubic feet of gas so that by combining all these elements, the unit cost of making gas, so far as the materials are concerned, has materially declined from 1903 to 1912, as follows:

Total gas making material per thousand cubic feet for:

1903.....	$.4125	1908.....	$.2664
1904.....	.3938	1909.....	.2554
1905.....	.3151	1910.....	.2298
1906.....	.3093	1911.....	.2154
1907.....	.2956	1912.....	.2332

These are Mr. Lea's figures from the company's own reports, and they show that the total material expense for making a thousand cubic feet of gas in 1907 was $.2956, with a gradual and almost uniform decline down to 1912, when it was $.2332, a drop of over six cents on the material expense alone of making a thousand cubic feet of gas. And we call attention to the fact that this law suit involved a controversy over 20 cents per thousand cubic feet of gas, and the company has saved enough since the ordinance was passed on the material cost of making a thousand cubic feet of gas alone to compensate for substantially one-third of the difference between the old rate and the new.

And if we compare 1912 to 1903 we find that the cost of the material for making water gas in 1903 was $.4017, as against $.2204 in 1912, a saving of $.1813 on the material alone per thousand cubic feet of gas, substantially enough to compensate for the difference in the rate now in force and the one that ought to be put into effect.

We have prepared from the annual gas reports of the company (line 1101, opposite 1716 printed record), the following table showing that the increased output of gas has reduced the quantity of coke used per thousand cubic feet of gas sold and also the coke per thousand cubic feet. We have reduced the quantity to pounds per thousand cubic feet of gas sold and also coke sold to cents per thousand cubic feet of gas sold, for the years 1906 to 1912, inclusive:

Year	Per M. Cu. Ft. Gas Sold Pounds Coke Used	Per M. Cu. Ft. Gas Sold Cents Coke Cost
1906	34.2	$.1212
1907	30.00	.1090
1908	33.8	.1037
1909	41.8	.1333
1910	41.8	.1155
1911	29.6	.1064
1912	27.6	.1100

The above table discloses that with the increased output of gas sold regardless of whether coke went up or down, the unit cost of coke per thousand cubic feet of gas sold gradually and substantially declined.

And we have also prepared from the same account (line 1102) shown in the annual reports of the company, 1906 to 1912, inclusive, a similar table as to the oil used in enriching water gas:

Year	cu. ft. Gas Sold Gal. Oil. Per M.	cu. ft. Gas Sold Gal. Oil Per M. Price	cu. ft. Gas Sold Cost Per M. Cents Oil
1906	2.81	$.0408	$.1525
1907	2.76	.0420	.1551
1908	3.11	.0307	.1406
1909	3.58	.0302	.1109
1910	3.95	.0276	.1010
1911	3.63	.0270	.0914
1912	3.63	.0327	.1081

The above table shows that the quantity of oil per thousand cubic feet of gas sold increased somewhat in 1908 and subsequent years over 1906 and 1907, but this increase was probably due to the fact that the city council passed an ordinance raising the standard of gas which required more oil,

and the enforcement of such standard resulted in an increased quantity of oil per thousand cubic feet of gas sold. This table discloses, however, that the actual price of oil per gallon has declined during these years. For example, it was $.0408 per gallon in 1906 and $.0327 in 1912. And, notwithstanding the increased quantity of oil used per unit of gas, the reduction in the price of oil used per unit of gas, and the increased output of gas resulted in a substantial decrease in the oil cost per thousand cubic feet of gas during these years. For example, the oil per thousand cubic feet of gas sold in 1906 was $.1525, whereas in 1912 it had declined to $.1081, a reduction in the unit cost of oil, or a gain in oil alone per thousand cubic feet of gas of about 5 cents.

Now it was the contention at both trials, and no doubt will be the contention now, that it would be unfair to compare gas rates in Lincoln with gas rates in eastern cities, because of Lincoln's unfavorable location relative to gas making supplies. Mr. Lea's table, above referred to, demonstrates that that claim is without foundation, but on the contrary, that the unit cost of making gas, so far as the materials are concerned, has been going down until the company has saved from gas making materials alone between 1903 and 1912, practically enough to enable it to sell gas at one dollar now and make as much profit as it would have made in 1903 at $1.20. The fact is, as we have already said, Lincoln is as favorably located, as far as materials are concerned, as almost any town of its size in the country, and it certainly compares favorably with Cedar Rapids and Des Moines, Ia., where gas consumers are getting gas at 90 cents per thousand cubic feet, and with Haverhill and Fall River, Massachusetts, where the rate is 85 cents and 80 cents per thousand cubic feet of gas, respectively.

But how is it with labor in Lincoln? This same table of Mr. Lea's (Exhibit "7-L-6," p. 1356 P. R., ante p. 121) shows the labor cost per thousand cubic feet of gas, for the years dealt with as follows:

Total cost of labor per thousand cubic feet:

1903.....$.0182	1907.....$.0281	1911.....$.0159
1904..... .0187	1908..... .0285	1912..... .0148
1905..... .0199	1909..... .0204	
1906..... .0253	1910..... .0174	

It will be seen that while the general trend of the gas unit labor cost in 1903 to 1909 inclusive was slightly upward, from that time to, and including 1912, the tendency has been substantially lower, so that, whereas, the gas unit labor cost for 1903 was $.0182, for 1912 it was $.0148, and the difficulty is not in the labor cost per unit.

Now, when you have the gas making materials and the gas making labor accounted for, and some small items of incidental expense in connection with the manufacture of gas, you have covered the total expense of the manufacture of gas, and this brings us now to Mr. Lea's total expense for generating water gas including both the labor and materials. He shows the totals for the years covered as follows:

1903.....$.4267	1907.....$.2887	1911.....$.1989
1904..... .4188	1908..... .2544	1912..... .2204
1905..... .3516	1909..... .2435	
1906..... .3553	1910..... .2178	

Thus it will be seen that while the total expense of manufacturing the gas was a little higher per unit of gas in 1912, that in the two preceding years it was still substantially lower than in any of the other years and shows that, whereas, the total expense of manufacturing gas, including all labor and materials, in 1907 was, per thousand cubic feet of gas, $.2956, in 1912 it was $.2332, or a saving in the total

expense of manufacturing gas from the time this ordinance was passed down to the end of 1912 of $.0624, or substantially one-third of the difference between the rate involved in this suit and the old rate. If we compare the total unit cost of manufacturing gas in 1903 with the same total in 1912, we get the following result: In 1903 $.4267, in 1912 $.2423, or a saving of $.1844, or substantially the amount in controversy in this suit, on the cost of manufacturing gas alone.

In this same exhibit of Mr. Lea's (Exhibit "7-L-6") we find the total cost of water gas in the holder per thousand cubic feet of gas made for the years 1903 to 1912 to be as follows:

1903.....$.4889	1907.....$.3951	1911.....$.3039
1904..... .4746	1908..... .3577	1912..... .3288
1905..... .4095	1909..... .3398	
1906..... .4195	1910..... .3148	

Thus it will be seen that the total cost of manufacturing gas and putting it in the holder ready for sale to consumers has substantially decreased between the years 1903 and 1912 per thousand cubic feet of gas. In 1907 the total cost of gas in the holder was $.3951 and in 1912 it was $.3288, or a saving per thousand cubic feet of $.0663 on the cost of gas in the holder, or practically one-third of the difference in the rates here involved. If we compare the total unit cost in 1912 with the total unit cost in 1903 we get the following result: In 1903 the total cost of gas in the holder per thousand cubic feet was $.4889, and in 1912 it was $.3288, or a saving of $.1601, or over 80 per cent of the twenty cents difference in the rates involved in this suit.

If there was anything in the contention that Lincoln is unfavorably situated for the economical manufacture of gas this would certainly manifest itself in the manufacturing

department, because, if the location unfavorably affected anything, it would be the gas making material and labor. Having shown, therefore, that the cost of gas in the holder, as shown by the company's own reports, has gone down per thousand cubic feet to a very substantial degree (over 80 per cent of the difference in the rate involved here) between 1903 and 1912, what is there left of the contention of the company that it is handicapped by Lincoln's unfavorable location? Certainly no point can be made that it costs more to distribute the gas in Lincoln than it does elsewhere so far as the mere cost of distribution is concerned. Of course, it will be argued that Lincoln is a scattered town, and that it has not the same number of consumers per mile of mains as many of the eastern cities where the population is more compact (a point which we shall discuss later), but aside from that, the cost of distribution cannot be substantially different in Lincoln from what it would be elsewhere. It was remarked, during the progress of the trial, that it costs more to read the meters here than in many other cities because the meters are farther apart and require a greater mileage of travel for the meter readers, but that certainly is a very trifling matter not worthy of consideration here, and would hardly have any appreciable effect in the cost of distributing the gas. And in this connection we call attention to Alton D. Adams' Exhibit "362," (P. R. 1595) giving a list of towns showing the sales per mile of main, and it will there appear that Lincoln is third in the list. So we contend that the trouble with this company is not in Lincoln's unfavorable location, because the location is not unfavorable. It is not in the cost of manufacturing and purifying gas and storing it in the holder, because it is shown by the company itself that the unit cost of gas in the holder has gradually tended downward and that there has been a substantial reduction in the unit cost of gas in the holder between 1903 and 1912, and also, between 1907 and 1912.

In that part of Mr. Lea's Exhibit "7-L-6" which deals with distribution, he gives us the total distribution expense, but we do not discover anything in these totals for the years 1903 to 1912, inclusive, indicating any serious handicap in the unit cost of distribution. For some reason not clear to us the cost of distribution has slightly increased between the years 1903 to 1912, but the increase has been very slight and we call attention to the fact that the years showing the greatest increase were the critical years during which this rate matter has been acute. These totals are as follows:

1903.....$.0893	1908.....$.0812
1904..... .0927	1909..... .0761
1905..... .1097	1910..... .0876
1906..... .1278	1911..... .0835
1907..... .1002	1912..... .1001

The distribution department expense for 1906 was $.1278, and for 1912 was $.1001 per thousand cubic feet, a substantial decline between those years. In 1907 the distribution expense per gas unit was slightly above that of 1912. So the difficulty, if there is any, has not come either from the unit cost of manufacturing or distributing gas. Where, then, does the trouble lie? And this brings us to the items of general expense incident to the operation of this plant, where we claim the principal part of the padding has been done. Now, one would naturally think that if there is any portion of the expense of operating a gas plant which would decline per unit of gas with an increasing output, it would be found to be more pronounced in the department having to do with the management of the company, than elsewhere. In other words, while we know that the increase in the output does decrease the total cost of gas in the holder, we would expect a very great decrease in the unit cost, especially when we come to consider the managing department of the company. The increase in the output of gas does not require more

than one president of the company, one vice-president, and one board of directors, and requires very little increase in the clerical department. The office rent and legal expense ought not to increase materially. And, therefore, in any well managed gas company, operated honestly and economically, and not controlled and operated by a non-resident plunder-bund for the purpose of absorbing the revenues in excessive salaries and other forms of individual profit, we should expect, and would undoubtedly find, substantial decline in the unit cost of gas in what is called by this company its executive department, and in the items of general expense. But what is the situation here?

We here direct attention to Mr. Lea's Exhibit "7-L-14," (p. 1356 R. R.) prepared from the annual reports of the company, being a table showing the cost of the executive department general expense per thousand cubic feet of gas sold for 1903 to 1912, inclusive.

EXECUTIVE DEPARTMENT—GENERAL EXPENSE—PER THOUSAND CUBIC FEET SOLD.

Year ending December 31	1903	1904	1905	1906	1907	1908	1909	1910	1911	1912
Executive salaries	.0353	.0176	.0170	.0182	.0179	.0256	.0299	.0467	.0416	.0380
General clerical salaries	.0091	.0052	.0034	.0032	.0022	.0026	.0037	.0038	.0047	.0053
General office expense	.0050	.0038	.0023	.0022	.0027	.0034	.0048	.0046	.0053	.0050
Incidental expense	.0213	.0136	.0113	.0139	.0096	.0137	.0182	.0137	.0227	.0204
Rent of executive offices	.0031	.0033	.0025	.0032	.0037	.0037	.0054	.0071	.0069	.0074
Legal expense	.0074	.0071	.0045	.0049	.0120	.0092	.0091	.0281	.0364	.0339
Total above items	.0812	.0506	.0410	.0456	.0481	.0582	.0711	.1040	.1176	.1099
Promoting new business	.0567	.1396	.1118	.0874	.0747	.0596	.0686	.0769	.0835	.0840
Taxes	.0371	.0180	.0147	.0436	.0395	.0380	.0391	.0397	.0466	.0651
Total general expense	.1750	.2082	.1665	.1766	.1623	.1558	.1788	.2206	.2477	.2590

Take the item of executive salaries, for the years 1905 to 1912, inclusive. This item entered into the cost of each thousand feet of gas as follows:

1905.....	$.0169	1909.....	$.0299
1906.....	.0182	1910.....	.0467
1907.....	.0179	1911.....	.0416
1908.....	.0256	1912.....	.0380

Thus it will be seen that executive salaries have gone up per thousand cubic feet of gas instead of going down, as we should naturally expect, and this item alone, between the years 1905 to 1912, has doubled per unit of gas. And let us make the comparison with the year 1907—the year when the dollar gas rate was to go into effect. Executive salaries in 1907 per each thousand cubic feet of gas were $.0179, whereas in 1912, notwithstanding the claim of the company that it was hard up and was being harassed by the public and could not afford to reduce the price of gas, executive salaries went cheerfully up, so that in that year it was $.0380 per thousand cubic feet of gas, or more than double what it was in 1907.

Again we wish to remind the court that this law suit involves but 20 cents per thousand cubic feet, and we are speaking here with reference to cents per thousand cubic feet of gas when we deal with these items of general expense. In other words, if we can point out where this company can save, and ought to save, in its operating expenses 20 cents per thousand cubic feet of gas sold, we ought to win this suit, wholly regardless of which line of testimony may be accepted as to the value of the property.

We wish to call attention here to line 1503 in the annual reports, "incidental expenses." (Ex. 26 to 30 inc., p. 1716 P. R.). Now the incidental expenses of this company ought

not to increase per unit of gas with the increasing output. In fact, it ought to substantially decrease, yet the item of "incidental expense" entered into the unit cost of gas between 1905 and 1912 as follows:

1905.....	$.0114	1909.....	$.0182
1906.....	.0139	1910.....	.0137
1907.....	.0096	1911.....	.0227
1908.....	.0137	1912.....	.0204

So that the item in 1912 entered into each thousand cubic feet of gas about double what it was in 1905, not in dollars, *but in cents per thousand cubic feet of gas sold.*

At line 1505 of said annual reports is shown the unit cost of legal expense, that is, the number of cents entering into each thousand cubic feet of gas, which represents the legal expense of the company. This item for the years 1905 to 1912, inclusive, runs thus:

1905.....	$.0045	1909.....	$.0091
1906.....	.0049	1910.....	.0289
1907.....	.0120	1911.....	.0364
1908.....	.0092	1912.....	.0339

This shows an increase in the "legal expenses" entering into each thousand cubic feet of gas in 1912 over 1905 of $.0294, or more than seven times what it was in 1905.

Line 1507 of said annual reports shows the item of "promoting new business." The actual annual expense of this item has somewhat increased during these years, but the unit cost has declined slightly. We contend now, and we shall take the matter up more extensively later, that this item should be largely eliminated from the operating expenses for the reason that this company has a monopoly in the gas business and there is no necessity for spending substantially $20,000 per year to advertise and promote the sale of a commodity that cannot be purchased elsewhere.

The item of "taxes" per unit has increased during these years and this we should expect as actual taxes have increased greatly. The company was not paying enough taxes to start with, and it is but right that its taxes should increase, and, besides, the taxes of everyone else during the same years upon a given piece of property have very substantially increased.

Line 1509 of said annual reports shows the total "general expense" entering into each thousand cubic feet of gas. The item of taxes should be eliminated in order that the full effect of this table should appear because the taxes are not under the control of the company and they are a substantial item and have increased per unit during these years sufficiently to break the full force of this table, but notwithstanding that fact and including the taxes with these totals, we see that between the years 1905 and 1912 the total general expense of the company per thousand cubic feet of gas has almost doubled, and if the item of taxes were eliminated, this item of general expense, as it entered into each thousand cubic feet of gas, would be shown to be more than double in 1912 what it was in 1905, whereas the contrary ought to be the normal situation. The total general expenses, including the taxes for these years per thousand cubic feet of gas are as follows:

1905.....	$.1673	1909.....	$.1788
1906.....	.1766	1910.....	.2206
1907.....	.1623	1911.....	.2477
1098.....	.1558	1912.....	.2590

By turning to Exhibit "272," p. 1475, vol. 4 of the printed record, it will be seen that the gas sold by the Company in 1905 was 143,690 cubic feet. The report of the Company for 1912 (Exhibit "30," p. 1716, printed record) shows the sales to 234,386 M cubic feet. The increase of sales of 1912 over

1905 was 90,695 M cubic feet, or about 63 per cent, and yet, instead of these general expenses going down per unit, as ought to have been the case, they have increased per unit about 55 per cent over 1905. In other words, the output has increased about 63 per cent, and this general expense, instead of going down, has increased over 1905 about 55 per cent, per unit.

Mr. Adams prepared a table from the sworn returns to the Massachusetts gas commission of a number of towns in Massachusetts, fairly comparable with Lincoln, for the purpose of making comparison between the unit cost per thousand cubic feet of gas of all expenses of these companies except gas making material and labor, repairs, renewals and taxes, with the same expenses of the Lincoln company. In order that the comparison might be fair, and include as nearly as possible, the exact items of expense upon which the comparison is made, he eliminated from his table all such items as would be likely to be affected by locality (see his explanation, p. 992, vol. 3, printed record). After eliminating all of gas making materials and labor, and all repairs, renewals and taxes from the Massachusetts plants referred to in this table, he reduced the remaining expenses to cents per thousand cubic feet of gas sold in order to enable us to make comparisons with the same expense in the Lincoln company per thousand cubic feet of gas sold, after eliminating the same items here (see Exhibit "281," p. 1481, vol. 4, printed record). The table referred to is Adams' Exhibit "349," p. 1595, vol. 5, printed record, and is as follows:

(Exhibit "349," p. 1595, vol. 5, printed record)

ALL EXPENSES EXCEPT MATERIALS AND LABOR MAKING GAS, REPAIRS, RENEWALS AND TAXES FOR PLANTS SELLING 100 TO 300 MILLION FEET OF GAS ANNUALLY PER SWORN RETURNS TO THE MASSACHUSETTS GAS COMMISSIONERS.

CENTS PER THOUSAND FEET GAS SOLD.

City	Year	M. Feet Gas Sold	Total Above Expense
Haverhill	1902	123,887	10.64
Tauton	1912	216,482	14.11
Tauton	1913	136,492	13.17
Haverhill	1903	153,068	10.36
Haverhill	1904	160,863	9.08
Haverhill	1905	165,483	10.08
Haverhill	1906	170,759	10.44
Charlestown	1904	179,798	12.16
Charlestown	1903	181,733	12.28
Haverhill	1907	182,359	12.27
Charlestown	1905	182,705	12.10
Lynn	1901	197,189	9.13
Charlestown	1907	210,863	11.90
Lynn	1902	224,514	8.76
Charlestown	1908	228,126	11.92
Charlestown	1909	230,580	12.77
Lawrence	1903	236,808	12.02
Charlestown	1910	238,229	11.40
Charlestown	1911	255,288	11.28
Charlestown	1912	266,869	10.25
Cambridge	1912	276,284	11.83
Lynn	1903	282,578	8.37

In order to contrast the expenses set out in cents per thousand cubic feet of gas sold as shown in the foregoing table for said Massachusetts companies we here print Adams' Exhibit "303," p. 1473, vol. 4, being a table for the Lincoln company showing the thousand feet of gas sold in each year from 1903 to 1912, inclusive, the salaries and office expenses for each year in cents per thousand cubic feet sold, distribution and general expenses per thousand cubic feet sold, and, in the last column the total of said expenses in cents per thou-

sand cubic feet sold in each year, said last column corresponding to the last column in the preceding table for the Massachusetts companies:

Lincoln Gas & Electric Light Co.

ALL EXPENSES EXCEPT MATERIALS AND LABOR MAKING GAS, REPAIRS, RENEWALS AND TAXES

IN CENTS PER THOUSAND FEET OF GAS SOLD.

(Adams' Exhibit "303," bot. p. 1494, vol. 5, printed record)

Year	M. Feet Gas Sold	Salaries and Office Expense	Distribution and Gen. Expense	Total Above Expense
1903	98,343	15.89	6.13	22.02
1904	117,429	22.20	4.83	27.03
1905	143,690	18.83	4.26	23.10
1906	153,663	17.00	4.42	21.41
1907	179,366	15.94	4.64	20.58
1908	195,391	15.48	5.02	20.51
1909	204,284	16.72	6.21	22.93
1910	210,169	19.81	8.23	28.04
1911	227,268	20.12	10.55	30.66
1912	234,386	19.85	11.27	31.12

Mr. Adams' Exhibits "350" and "351" (p. 1596, vol. 5, printed record) deal with the town of Cambridge, Massachusetts, showing the salaries and office expense and the distribution and general expense, excluding gas making labor and material, repairs, renewals and taxes. The last column shows in cents per thousand cubic feet of gas sold the extent to which these general expenses enter into the cost of gas sold in Cambridge, and it will be seen that the percentage from 1900 to 1912, runs from eleven to twelve cents per thousand. Excluding the same items from the general expense of the Lincoln plant the remaining general expense in 1912 per thousand cubic feet of gas sold was 31.12 cents (see Mr. Adams' Exhibits "290," p. 1490, vol. 4, and "303," p. 1494, vol. 5).

Mr. Adams' Exhibits "352" and "353" (p. 1597, vol. 5) deal with the gas plant at Charlestown, Massachusetts, in the same manner and it will be seen that the general expense per thousand cubic feet of gas in 1900 was 21.91 cents and that it ran down to 10.25 cents in 1912, as against 31.12 cents here.

Mr. Adams' Exhibits "354" and "355" (p. 1598, vol. 5) deal with the gas plant at Lawrence, Massachusetts, in the same manner and show that in 1900 the general expense of that company included in Mr. Adams' statement, was 22.56 cents and that it declined gradually and was 12.10 cents in 1912, as against 31.12 cents here.

Mr. Adams' Exhibits "356" and "357" (p. 1599, vol. 5) treat in a similar manner the operations of the gas plant at Lynn, Massachusetts, and it will be seen that while there was a slight increase per thousand, the unit cost of these general expenses per thousand feet of gas was only 9.90 cents in 1912, as against 31.12 cents here.

Mr. Adams' Exhibits "358" and "359" (p. 1600, vol. 5) deal in a similar manner with the Taunton gas plant, and show that the unit cost of these general expenses per thousand cubic feet of gas sold in 1900 was 17.01 cents, and in 1913 it was 13.17 cents, as against 31.12 cents here.

Mr. Adams' Exhibits "360" and "361" (p. 1601, vol. 5) deal in a similar manner with the gas plant at Haverhill, Massachusetts, showing the cost per thousand cubic feet of these general expenses, and that it was 12.27 cents in 1912, as against 31.12 cents here.

When these Massachusetts tables were produced and testified to by Mr. Adams, the ompany's expert and counsel fully appreciated their significance and they made a desperate assault upon Mr. Adams and his Massachusetts data, and

Mr. Lea went all the way to Massachusetts and spent considerable time, and caused an adjournment of this case for the purpose of investigating the Massachusetts records and procuring the means of discrediting the testimony of Mr. Adams, and his Massachusetts tables. And Mr. Lea seems to have returned imbued with the idea that he had the necessary means of completely discrediting Mr. Adams, and he took the stand for the purpose of doing so. And he undertook to satisfy the master that Mr. Adams, in making up these Massachusetts tables, had excluded other substantial items of operating expense, than those expressly excluded by his headings, and that therefore his tables did not reflect the exact situation. Mr. Lea, therefore, undertook to correct Mr. Adams' tables, and produced some corrected tables of is own, concerning these Massachusetts companies. The cross-examination of Mr. Lea, by Mr. Adams, however, (beginning on p. 493, vol. 2, printed record), clearly demonstrated that Mr. Lea either did not know what he was talking about, and did not understand the Massachusetts records at all, or else he was deliberately trying to mislead the court, because it turned out that the items which he claimed Mr. Adams had improperly excluded, were not operating expenses at all, and were not so reported to the Massachusetts commission, nor so treated by that commission. And Mr. Wettling, a director of the Gas Company, and one of its expert witnesses, who for a number of years has been the expert accountant of the Nebraska Railway Commission, and ought to have a sufficient understanding of accounting to be able to put a correct interpretation upon the Massachusetts reports and records referred to, fell into similar error, and his cross-examination by Mr. Adams (p. 804, vol. 3, printed record) clearly demonstrated that he had been misled by Mr. Lea. So that the net result of the attempt to discredit the testimony of Mr. Adams in this instance, as in every other instance, came to naught and only tended to strengthen his position. We wish to impress upon the mind

of the court, the great value of these Massachusetts tables in relation to the matter now under consideration. It must be remembered that if there is any item in these general expenses that would be influenced at all by locality, those items have been excluded by Mr. Adams from the operations of both companies in making these comparisons. It therefore does not weaken the force of these tables, that we are out in the middle-west, and that these tables deal with Massachusetts companies, because the matters involved in the tables are not affected by location at all. Salaries of officers, clerical help, etc., would be about the same in Massachusetts as here. In fact, the executive salaries of this Lincoln company, practically all go to New York City, and the salaries of the local managers, and all, are undoubtedly fixed by the New York office, so that these salaries are, in every true sense, eastern salaries, and the reason for going to Massachusetts for these statistics is, that that is about the only place to go where such statistics, of any value, extending over a sufficient number of years to have anything like persuasive force, can be found.

Mr. Adams' Exhibit "368" (p. 1608, vol. 5) is a similar table relative to the Gas Company of Worcester, Massachusetts, covering the years 1895 to 1913, inclusive. It will be seen that the general expenses of that company which are compared with the same expenses of the Lincoln company, were in 1895, 16.24 cents per thousand cubic feet of gas sold, and, as the output increased, this expense per gas unit declined until in 1913, it was 8.24 cents per thousand cubic feet of gas sold as against 31.12 cents here. These Massachusetts tables in every instance show that, where the general expense was not already very low per gas unit, as the gas output increased the amount of the general expense per unit decreased. And why should not this be the result? Is it not what we would naturally expect? We have already shown that in the manufacturing department as well as in the dis-

tribution department the expense per gas unit has decreased with the increased sales. Now if the unit cost of making, purifying and distributing the gas is favorably affected by the increased output, what reason can be assigned for the opposite tendency in these general expenses which pertain principally to the management of the Company, and where we would naturally expect the unit cost to decrease far more than in the other branches of the business? To demonstrate that the results here complained of are not normal and are not to be attributed to locality we call attention to certain electrical tables, introduced by us, for the purpose of showing, and which do show, that in the electrical department of this Company these same general expenses declined during the same years as the output increased per unit of electric current.

These tables are taken directly from the electrical reports of the Company and represent that portion of these general expenses which are by the Company apportioned to the electrical department. There is no chance for quibbling nor claiming that we are not comparing the same items as are shown in the gas tables because they are the identical items there shown without the omission of anything. They do not even exclude taxes or any of the other items excluded by Mr. Adams from both sides of the comparison when he compared the Massachusetts companies with the Lincoln company. These electrical tables are made for the purpose of comparing one department of the Company where there is no attempt to regulate rates with the other department where rates are sought to be regulated and they are taken from the Company's own showing as to both departments. These electrical tables are indicated as follows:

Exhibit "379" (p. 1620, vol. 5) gives the expenses in the electrical department for each of the years of 1903 to 1912 inclusive, reducing the cost of reading meters in the electrical department to the unit cost per meter. It shows the number

of meters and the number of consumers in the electrical department for each year. It shows that the cost of reading meters in the electrical department has gradually decreased per meter as the output increased.

Exhibit "398" (p. 1621, vol. 5) shows the cost of generating steam in the electrical department taking the various items and the amounts of each, this expense is reduced to cents per K. W. hour for each of the years 1903 to 1912 inclusive. It shows that the unit cost of steam has declined as the output increased, varying somewhat with the different years.

Exhibit "401" (p. 1626, vol. 5) contains two tables, the upper one showing the gross earnings, the operating expenses and the net earnings for the electrical department for the years 1903 to 1912 inclusive. The lower table shows the collection expense of the electrical departments for the same years. Exhibits "399" (p. 1623) and "400" (p. 1624) are the tables dealing with the general expense of the electrical department and are the ones to which we desire to call especial attention at this point. We here set them out in full:

ELECTRICAL DEPARTMENT—GENERAL EXPENSE.

(Exhibit "399")

Line	Item	1903	1904	1905	1906	1907
3224	Ex. salaries	$ 2,623.42	$ 2,005.07	$ 2,447.21	$ 2,808.88	$ 3,168.64
3225	Clerical	792.95	562.91	474.72	400.00	493.74
3226	Gen. off. exp.	400.24	376.43	241.29	238.74	438.39
3227	Rent ex. off.	261.47	331.42	332.99	466.99	539.14
3228	Legal exp.	985.90	1,356.09	956.04	840.12	1,141.92
3229	Incidental	2,324.25	1,831.00	1,502.86	2,181.29	1,743.92
3232	Taxes	1,825.90	1,056.00	1,056.00	3,345.24	3,542.52
3231	Pro. new bus.	1,107.94	3,201.83	5,191.04	9,016.23	11,157.50
	Total	$10,322.07	$10,720.75	$12,202.15	$19,300.47	$22,325.77

Line	Item	1908	1909	1910	1911	1912
3224	Ex. salaries	$ 2,015.94	$ 1,536.66	$ 2,459.89	$ 2,367.73	$ 2,229.33
3225	Clerical	207.00	187.00	201.10	266.70	303.70
3226	Gen. off. exp.	339.79	275.33	269.08	320.00	329.90
3227	Rent ex. off.	301.59	331.96	412.23	392.23	434.42
3228	Legal exp.	795.70	766.45	999.88	1,080.76	1,223.13
3229	Incidental	1,203.45	1,005.63	742.93	1,389.18	1,134.02
3232	Taxes	3,714.36	3,993.00	4,167.50	5,280.00	7,200.00
3231	Pro. new bus.	7,930.04	12,165.09	7,350.88	6,637.30	3,877.33
	Total	$16,507.87	$20,261.12	$16,603.99	$17,734.20	$16,731.85

Exhibit "400" embraces the same items of general electrical expense as those in the preceding table reduced to cents per K. W. hour and is as follows:

ELECTRIC DEPARTMENT—GENERAL EXPENSE PER K. W. HOUR CAPACITY.

(Exhibit "400")

Line	Items	1903	1904	1905	1906	1907
3224	Ex. salaries	.8692	.4849	.4216	.3476	.3161
3225	Clerical		.1511	.0562	.0463	.0372
3226	Gen. off. exp.		.0255	.0281	.0232	.0186
3227	Rent ex. off.		.0511	.0562	.0502	.0372
3228	Legal exp	.1943	.1222	.1124	.0908	.0558
3229	Incidental	.7706	.4660	.3519	.4213	.2717
3231	Prom. new bus.	.3671	.8160	1.2150	1.7415	1.7280
3232	Taxes	.9080	.4050	.3710	.9530	.7313
	Total	3.1094	2.4218	2.6124	3.6745	3.1959

Line	Items	1908	1909	1910	1911	1912
3224	Ex. salaries	.1985	.1811	.1462	.1336	.1117
3225	Clerical	.0355	.0577	.0316	.0410	.0425
3226	Gen. off. exp.	.0177	.0212	.0140	.0180	.0167
3227	Rent ex. off.	.0355	.0424	.0214	.0186	.0182
3228	Legal exp.	.0556	.0904	.0594	.0610	.0620
3229	Incidental	.1777	.1590	.0442	.0784	.0575
3231	Prom. new bus.	1.1713	2.1510	.6554	.5618	.2948
3232	Taxes	.6635	.9414	.4955	.5960	1.0948
	Total	2.3553	3.6442	1.4685	1.5084	1.6980

Comparison should here be made between the last table above copied (Exhibit "400") and Mr. Lea's Exhibit "7-L-14," previously herein set out (on p. 131), wherein Mr. Lea has reduced these same items of expense as shown in the gas report to cents per thousand cubic feet of gas sold. And this comparison will disclose that, whereas, the total executive department, general expense, for the gas department has increased per thousand cubic feet sold from $.1750 in 1903, to $.2590 in 1912, in the electrical department the total of these same expenses per K. W. hour capacity have declined from $.31094 in 1903 to $.1698 in 1912. And we must remember, also, that the taxes are included in both tables and these have enormously increased during these years and constitutes perhaps the largest single item in these tables, and have been divided on the ratio of one-third to electricity and

two-thirds to gas, whereas, the other expenses, since May, 1908, have been divided on the ratio of 20 per cent to electricity and 80 per cent to gas. It is therefore to be remembered that these tables do not show the vast difference in the opposite trend of these general expenses in these two departments respectively which would be shown if the item of taxes were excluded. Let us take some of the single items in these two tables (Mr. Lea's Exhibit "7-L-14" and our Exhibit "400") and make a comparison, always remembering that in each instance, the item has been reduced to cents per unit.

EXECUTIVE SALARIES PER THOUSAND CUBIC FEET OF GAS SOLD AND PER K. W. HOUR CAPACITY.

Year	Gas Sold Year	Expense Gas Department	Gen. Expense Electric	Expense Department
	1903	$.0353	$.8692	
	1904	.0176	.4849	
	1905	.0170	.4216	
	1906	.0182	.3476	
	1907	.0179	.3161	
	1908	.0256	.1985	
	1909	.0299	.1811	
	1910	.0467	.1462	
	1911	.0416	.1336	
	1912	.0380	.1117	

Take the item of rent of executive offices as another illustration. Exhibit "400" does not give the unit cost of this item in the electric department for 1903, so we shall compare 1904 with 1912. Of course, we know that the actual office rent in dollars has very greatly increased from 1904 to 1912, but how did it affect the unit cost of gas and electricity as reflected in the Company's books? It will be seen at a glance that this item per unit of gas has been gradually going up, but per unit of electricity it has been gradually going down. For instance:

Rent of Executive Offices—

	1904	1912	
Gas per M. cu. ft.....	$.0033	$.0074	increase of over 100%
Electricity per K. W. hour	.0511	.0182	decrease of 64%

General Office Expense—

	1903	1912
Gas per M. cu. ft.....	$.0050	$.0050
Electricity per K. W. hour	.0255	.0167

Legal Expense—

	1903	1912
Gas per M. cu. ft.....	$.0014	$.0339
Electricity per K. W. hour	.1903	.1620

Incidental Expense—

	1903	1912
Gas per M. cu. ft.....	$.0213	$.0204
Electricity per K. W. hour	.7706	.0575

Promoting New Business—

	1903	1912
Gas per M. cu. ft.....	$.0567	$.0840
Electricity per K. W. hour	.3671	.2948

So it will be seen that the normal trend for these general expenses is downward per unit as the output increases in the electrical department, just as Mr. Adams says it ought to be,and just as his Massachusetts tables show it to be in the gas plants of Massachusetts. In this gas plant, however, we have the peculiar situation of the unit cost of these general expenses increasing enormously from year to year in the gas department, in spite of the great increase in the gas sales, and in spite of the fact that the identical items of expense have been going down per unit in the electrical department, where the rate was not being regulated, and where normal tendencies have been permitted to take their course.

Can anyone inspect these tables and read the testimony of Mr. Phillips, the secretary of the Company (see pp. 768-9)

without being driven to the conclusion that since this rate ordinance was passed there has been a deliberate attempt upon the part of the management of this Company, not only to abnormally and unnecessarily increase these general expenses which are common to both departments, but also to make the apportionment between the two departments upon such a basis as will throw the great bulk of them into the gas department where they will do the most good in assisting the Company to strike down this rate?

As we have already said, in grouping the expenses of this company, for the purpose of making comparison with a long list of Massachusetts companies, Mr. Adams eliminated all items of gas making labor, gas making material, repairs, renewals, and taxes in order to eliminate from both sides of the comparison all items which might be affected by locality. The grouping thus made of the expenses of this company include some items of expense in addition to those classified by the Company, as "executive department general expense." He allows in his estimate thirteen cents per thousand cubic feet of gas sold to cover all of the expenses included in the comparison, which he says is ample, and which we think will be seen to be liberal in the light of the cost of the same items to the Massachusetts companies in the table which is to follow. In 1912 this company reported an expense of 31.13 cents per thousand cubic feet of gas sold to cover these same items, or rather an analysis of the Company's report shows this fact. As against Mr. Adams' allowance of 13 cents per thousand, we have nothing but the deliberate effort of the Gas Company to swell these expenses in the gas department by increasing the list of executive salaries and legal expenses, adding additional and unnecessary officials to the salary list, squandering money in needless advertising and incidental expense, and then making an outrageously unfair division of the expenses between the gas and electric department, thereby running

these expenses up in the gas department to more than double what they should be, and more than 18 cents per thousand above what Mr. Adams says would be ample, the increase thus brought about being almost enough to make up the difference in the two gas rates involved in this suit. Many of the Massachusetts companies referred to in Mr. Adams' table handle these same general expenses for 10 cents, and less, per thousand cubic feet of gas sold.

And, what is more to the point, these Massachusetts companies are selling gas at one dollar and less, and paying dividends, as witness Mr. Adams' Exhibit "369" as follows:

GAS RATES AND DIVIDENDS OF MASSACHUSETTS PLANTS IN THE YEAR 1912.

(Exhibit "369," p. 1608, vol. 5, printed record)

Plant	M. Feet Gas Sold	Price Per M. Feet	Dividend Paid	Cents Dividends Per M. Sold
Attleboro	57,326	$1.00	12	12.14
North Adams	89,731	1.00	18	6.74*
Suburban	131,822	.90	9	13.25*
Taunton	126,492	1.00	10	17.39
Salem	168,313	1.00	9	26.71
Haverhill	235,116	.85	(Rate suit pending)	
Charlestown	266,869	.85	12.5	20.34*
East Boston	375,193	.85	10	15.33
Newton	416,353	.90	11	14.80
New Bedford	472,545	.80	12	16.03*
Lawrence	441,324	.90	8	16.25*
Malden	580,820	.90	7	19.09
Fall River	550,734	.80	12	15.03
Lowell	593,971	.85	12	20.20
Springfield	693,023	.85	12	19.70
Lynn	743,042	.75	16	12.29*
Cambridge	762,630	.85	10	15.74
Worcester	783,734	.75	12	17.61

* Estimated.

We contend, therefore, that this company has not made a fair showing as to what would be its normal and necessary

operative expenses as the law requires it should; it has not made an honest effort to reduce its operating expenses, but, on the contrary, it has enormously increased them during the very time when such increase would best serve the Company in its efforts to defeat this new gas rate, and it has deliberately attempted to perpetrate a fraud, not only upon the public, but upon the court by changing its method of apportioning the general expenses as between the gas and electric departments. It is not incumbent upon us to show just what these expenses should be in dollars and cents, but we have shown that they should be much less than they are now. We have shown that many well-managed companies are operating their plants at a rate of one dollar and less, paying substantial dividends to the stockholders, and managing their business with an expense equal to only about one-third of what is paid here for these general items included in Mr. Adams' comparison.

We shall proceed now to point out some of the items of expense which are greatly excessive, and some of the items which are entirely improper and should be eliminated.

SECOND.

DEDUCTIONS WHICH SHOULD BE MADE FROM OPERATING EXPENSES.

(a) EXCESSIVE ITEMS.

1. EXPENSE OF NEW YORK OFFICE.

This gas plant has no more use for the New York office and the New York management than a wagon has with five wheels. Nor does this community need the services of the New York office, nor does the New York office in the least contribute to the gas service of this city. The testimony shows that Henry L. Doherty & Company operates 108 public service plants in different parts of the country. Henry L. Doherty & Co. is a partnership composed of Henry L. Doherty, C. T. Brown and

F. W. Frueauff (p. 782, vol. 3). Mr. Frueauff says that he and Mr. Doherty hold office in most of these 108 public service corporations (p. 778, vol. 3) and that he drew salaries from not over three or four and that he supposed his salaries from these companies would total $15,000 or $18,000 (p. 782, vol. 3). It will be observed that he is a little indefinite as to the number of companies of this character from which he draws a salary and as to the sum total of such salaries and it is safe to assume that since he could not remember definitely and did not pretend to be definite that he kept on the safe side in stating the amount. He could not remember how many companies are paying a salary to Mr. Doherty nor as to the sum total of such salaries. We neglected to ask him about the salaries drawn by Mr. Brown, the other member of the firm, but it is safe to assume that Mr. Brown is drawing substantial salaries from many of these companies. When we recollect that these salaries are dumped into the coffers of Henry L. Doherty & Co. from all parts of the country and that Henry L. Doherty & Co. charges to this company $300 per year for the services of a gentleman in their office and on their payroll as eastern secretary of this company, who is supposed to devote a portion of his time to the business of this gas plant, and that they are probably receiving a similar amount for the same purpose from all of these other public service corporations controlled by them, when we remember that an auditor is sent out at least once a year, and sometimes oftener, to audit the books of this company for the enlightenment of this New York office, which costs this company the traveling expenses of such auditor and two or three hundred dollars for his services, which charge is for the benefit of Doherty & Co., and is received by them; when we remember that Doherty & Co. is constantly drawing from the Lincoln company substantial items for paying bond interest and for other services in financing this company; when we remember that Henry L. Doherty & Co. acts as banker for this

local company at New York City, and has on deposit a substantial sum of money belonging to this company and seems to feel perfectly free to draw on this company for funds when they are needed in financing some of their other enterprises, we are not surprised that these gentlemen in New York City are fighting a reduction of the gas rate here. Their concern in the matter is not on account of a reduction of dividends to the stockholders, because by reason of the great over-issue of bonds and the enormous executive salaries no dividends have been paid to stockholders for many years and no dividends will ever be paid to stockholders under any rate until there is a reorganization of the Company and a readjustment of its capitalization so as to bear some relation to the value of its assets. These gentlemen are opposed to reduction of rates because it would probably require them to reduce the amount of money they are drawing from this community for the benefit of the New York office without any consideration in return.

Exhibit "384" (p. 2026, vol. 5) is a telegram from Henry L. Doherty & Company to B. C. Adams, manager of the local company, under date January 4, 1910, directing Mr. Adams as to whom to elect on the board of directors, and to the different offices of the Company, which gives an idea of the completeness of the New York control. This telegram is the one which resulted in putting Armstrong in as president, at a fat salary without displacing anyone else, and it also added Mr. Frueauff, as vice-president, with a large and comfortable salary, both salaries being in addition to a salary list already too large, and this in the face of the danger of this alleged confiscatory rate, and while this very suit was pending. The telegram was as follows:

(Exhibit "384")

"New York, Jan. 4, 1910.

"To B. C. Adams, c/o Gas Company, Lincoln, Nebraska:

"Elect Doherty chairman, Board of Directors, Armstrong President, Frueauff Vice-President. Reelect Burnham.

"HENRY L. DOHERTY & CO."

This company has a local manager who draws $3,600 a year. For a number of years Mr. B. C. Adams was the manager of the Company; he was a practical gas man, eminently capable of managing the plant and having an adequate knowledge of all its departments and business. Mr. Frueauff, president of the Company, testified that Mr. Adams was a competent gas engineer and a practical gas man and that he had the necessary skill and ability to manage this company and to perform all of the local duties of the president of the Company and chairman of the board of directors (p. 783, vol. 3). That being the case, what right has this company to impose upon the gas consumers of this city the additional burden incident to maintain this Wall Street office? Notice the testimony of Mr. Frueauff (p. 779, vol. 3), where he explains that Mr. Adams gets $3,600 as superintendent and manager, Mr. Doherty gets $3,000 and witness gets $2,400, making a total of $9,000 executive salaries.

But this $9,000 does not tell the whole story by any means. We have no criticism to make against the $3,600 paid to the local manager, nor the salary paid to the local secretary, although it seems to us that these salaries are amply large to cover all of the expense necessary to be incurred in the form of executive salaries and for the management of the Company. This would be much more than the city of Lincoln would pay for the management of the Company if this gas plant were being operated by the municipality. If the local manager and local secretary are competent to earn those

salaries, and are competent to manage this company, as everybody admits they are, then we most earnestly insist that the gas consumers of this community cannot be burdened with the unnecessary expense incurred in connection with this superfluous New York management.

And notwithstanding the fact that this company is paying its local attorney $3,000 a year as a regular salary, it is also paying a regular retainer of $600 a year to C. A. Frueauff, an attorney of New York City, a brother of the president of the Company, for some supposed service he is said to render. And, besides, we notice an occasional substantial item paid to him for special services rendered by him from time to time, as for instance, $2,500 was paid to him or is firm in connection with the first appeal of this dollar gas rate case to this court (see p. 729, vol. 3), notwithstanding the fact that the former trial was conducted by Mr. Halleck F. Rose and Mr. E. C. Strode and these two gentlemen performed all the services in connection with the preparation of the brief and the argument of the case before the supreme court so far as attorneys for the City have any knowledge. Notice some of the principal items of expense of maintaining the New York office for 1912:

H. L. Doherty, salary as chairman of board of directors	$3,000.00
F. W. Frueauff, as president	2,400.00
A. C. Frueauff, New York attorney	600.00
New York secretary	300.00
Auditing expense (about)	300.00
Total	$6,600.00

We also point out in Exhibit "323," the incidental expense account for 1912, the following items of expense incurred by reason of the New York office:

February 29, expense Adams & Strode, N. Y. trip...	$ 250.00
February 29, B. C. Adams, expense Mgr. meeting, N. Y.	280.00
March 30, H. L. Doherty & Co., expense Winan....	18.23
April 16, B. C. Adams, expense to N. Y.	48.50
Aug. 27, H. L. Doherty & Co., contribution	160.00
Oct. 27, H. L. Doherty & Co., traveling expenses N. Y.	80.00
Dec. 31, Adams & Strode, trip to N. Y.	575.00
Total	$1,411.00

In addition to the above and foregoing items there are in the accounts of the company for almost every month numerous items for telegrams to and from New York, the amount of which would be difficult to arrive at, and various items paid to the New York office for transferring stock and paying the coupons of this Company.

The 1913 accounts show a still heavier burden resulting from the maintenance of the New York office. We call attention to Exhibit "321" (p. 1502, vol. 5), showing traveling expenses alone for 1913. It will be seen that these traveling expenses are heavy and are very largely trips to and from the New York office. We also call attention to the legal expense, Exhibit "324" (p. 1502, vol. 5) for 1913. We shall deal with this item more at length in a later portion of this brief but we call attention to the numerous items entering herein which go to the New York office:

Te initials C. A. F. refer to C. A. Frueauff, Att'y, of New York City, a brother of the president of the Company. It will be seen that he figures quite extensively in these items.

Even the domestic fuel and appliance account for 1912, Exhibit "326" (p. 1502, vol. 5) shows numerous items paid to H. L. Doherty & Co.

We have not attempted to go through all of these accounts and undertake to segregate the items of expense attributable to the New York office. It would be impossible for us to do so because these accounts contain a very large number of items some of which are insubstantial amounts and aggregating for each year a very substantial sum, and which are designated by the abbreviation "contg." which we understand means contingent. The burden being upon the company not only to show the amount of its operating expenses but to show that they are reasonable, necessary and legitimate, we assume that it was the company's duty not only to segregate these items, but to satisfy the court that they were necessary items of expense in the operation of this gas company.

2. INCIDENTAL EXPENSE.

The incidental expense account for 1912 was copied in full and is Exhibit "323" (p. 1502, vol. 5). It is a substantial item of expense amounting in 1912 to $4,790 or an average of $399.16 per month. A very large part of this account is made up of improper items having nothing whatever to do with the manufacture and sale of gas nor with the economical and legitimate management of the Company. This account contains, of course, many items which are legitimate and it contains some which are doubtful but a very large part of the account and especially the larger items of the account are not only improper as items of expense but disclose a reckless disregard of the rights of the public if indeed they do not disclose a deliberate purpose to control public sentiment in the Company's favor and incidentally to swell the operating expenses to aid in defeating this rate. For the years 1907 to 1911 inclusive, we have not copied this account in full but have picked out certain items for each of the years which we consider improper items of expense and these will

be found in Exhibit "23." We here give the total of this incidental expense account for the years 1907 to 1912 inclusive:

			Cents Per M. Cu. Ft. Gas Sold
1907.....	$1,723.38	(p. 301, vol. 1, P. R.)	1907..... .0096
1908.....	2,679.18	(Ex. "26")	1908..... .0137
1909.....	3,715.04	(Ex. "27")	1909..... .0182
1910.....	2,878.22	(Ex. "28")	1910..... .0137
1911.....	5,162.84	(Ex. "29")	1911..... .0227
1912.....	4,775.01	(Ex. "30")	1912..... .0204

This account is not only a substantial one in the sum total of dollars, but reduced to cents per thousand cubic feet of gas, it represents a substantial portion of the twenty cents involved in this controversy. And it will be observed, as we have already pointed out, that the incidental expenses have wonderfully increased in the dollars represented and also in the cents per thousand cubic feet of gas, whereas they should have decidedly decreased when reduced to the unit cost of gas. This is the account which contains items of donations, cigar, candy and cafe bills, flower bills, bills for entertaining guests, bar bills for beer and cocktails, prize fights at the Beach, forty dollars a month to the manager to be spent in being a good fellow, no account to be rendered and no questions to be asked, and this in addition to his $3,600 salary. Since the manager seems to have paid all of the items incident to being a good fellow in the form of cafe bills, bar bills, cigar bills, candy and flower bills, we do not believe he spent this forty dollars at all, except by adding it to his salary and using it for his own purposes, unless he had other methods of being a good fellow which have not been made apparent. This account also discloses that the heads of departments of this company for years have been having weekly "feeds" at the Savoy Hotel, and other cafes, and charging the expense to the Gas Company. The total paid to the Savoy Hotel alone for cafe service in 1912 for these heads of departments was

$222.00. It will be seen also that at least two of the heads of departments joined the Country Club and had their Country Club dues paid by the Gas Company. As we understand it, it costs $60.00 to join the Country Club, and the annual dues thereafter are $40.00. The custom has been also, for a number of years, to donate to the Commercial Club $200.00 per year and also to pay the annual dues of several of the heads of departments and charge all these to the incidental expense account of the Gas Company. Numerous donations appear in this account from year to year, donations to the Charity Organization, the Salvation Army, Wesleyan University, Havelock Commercial Club, the German Day Parade, etc., etc. The cigar bill for 1912 was $27.00. Also included in this account are various items of expense incident to handling the company's notes and paying the company's coupons. Certainly the gas consumers of this city cannot be burdened with items of interest paid on this Company's bonds and notes nor with any expense incurred in New York in connection with paying the interest nor handling the notes. In this incidental expense account also appear numerous items charged as "rebates." Running these down we discovered that many of these rebates could not be explained. The vouchers contained nothing save the amount charged to this account by this rebate slip and certain mysterious initials. Mr. Honeywell, the manager of the Company at the time that some of these rebate slips were made, and in whose handwriting they appear, could not, for the life of him, remember anything about them nor give us any information as to what the initials meant. All such items should be eliminated from the operating expenses of the Company as the burden put upon the Company is to show that the expenses were legitimate. The Company has not only failed to show that these rebate items were legitimate, but on the contrary, the City was able to show that some of them, at least, were mere gratuities given to some favored and influential

individuals, in the form of free gas, running back through a series of years. For instance, we call attention to Exhibit "328" (p. 1502, vol. 5) being an account designated "rebates and allowances" for the year 1913, also Exhibit "329" (p. 1502, vol. 5) showing rebates to T. H. Pratt, and also to Exhibit "271" (p. 2007, vol. 5) prepared by Mr. Thomas, covering these rebates and allowances from 1907 to 1912 inclusive, and Mr. Thomas' testimony relative thereto (p. 1257, vol. 4).

It will be seen that these rebates to these few favored individuals for said years amounted in the aggregate to $3,408. And there are numerous other incidental expenses wholly unexplained but which were conceded in the record not to be properly chargeable to operating expenses to the extent of $800.

3. LEGAL EXPENSE.

This item of legal expense is one that has been growing enormously in recent years and of course, the growth is due largely, if not wholly, to this litigation over the gas rate. The following tabulation shows the legal expense for the years 1905 to 1913 inclusive, both in dollars and in cents per thousand cubic feet of gas:

Amount		Cents Per M. Cu. Ft. Gas Sold	
1906.....	$ 757.43	1906.....	.0032
1907.....	2,160.31	1907.....	.0120
1908.....	1,796.32	1908.....	.0092
1909.....	1,858.52	1909.....	.0091
1910.....	5,911.70	1910.....	.0281
1911.....	8,279.48	1911.....	.0364
1912.....	7,954.73	1912.....	.0339

For the year 1906 the legal expenses of this Company were $757.43 and that was large enough. There is no reason why the normal legal expenses of this company should be great.

Aside from this present litigation over the rate, the Gas Company has very little legal business. And we believe any competent attorney would be willing to handle the business of this Company, aside from this litigation, and aside from any extraordinary litigation that might arise from personal injury suits, for $50.00 per month. There is nothing in this record to show that this Company has any other litigation pending nor that it has ever had much litigation aside from litigation with the public over taxes, franchises and rates. If this Company would abolish the New York office and get rid of that amount of expense, and free itself from the influence of the coterie of Wall Street high-financiers who seem to have the idea that the way to manage a public service plant is to ignore the rights of the public, and render the minimum of service at maximum expense, it would have practically no litigation at all, and would not need the services of an attorney except upon rare occasions and then mostly for consultation. We think the Company never paid over $50.00 a month for legal services, prior to 1906. Certainly there is nothing about the increased output of gas, or the increased number of consumers which would add any considerable amount to the work of an attorney, nor to the normal legal expense of the Company. We therefore contend, and we think the items contained in the legal expense account clearly show, that the increase which has taken place in the legal expense of the company has been due almost wholly to the pendency of this present litigation. Certainly no one will contend that a public service company can attack an established rate as confiscatory and incur large expense in its attempt to strike down the rate, and use this expense as one of the elements to enable it to show that the rate is confiscatory. And it has been held that the expense of litigation to set aside an established rate cannot be considered in determining the question whether the rate will yield a fair return or not.

The following quotation from the opinion in *San Diego Water Company* v. *City of San Diego*, (Cal.) 62 A. S. R. 261, 275, is not only in point as to the duty of the Company to show all items of expense to be proper, but it is especially in point on the exclusion of the expenses of this present litigation:

> "Whether all of the items complained of are proper or improper cannot be determined upon this record, but some of them are not shown to be proper. It will be the duty of the court on a re-trial to allow no item of expenditure which is not satisfactorily shown to be an actual and proper charge in the actual conduct of the business of supplying water; and, when legal or other general expenses are claimed, they must be shown to have had a proper relation to that business. Of course, the items of expense in the present action should be disregarded."

4. SPECIAL APPRAISAL EXPENSE AND EXPENSE OF DOLLAR GAS CASE.

Exhibit "327" (p. 1502, vol. 5) is a special account established in January, 1913, in which is entered various items of expense incident to the appraisal of this property for the purpose of this suit and various other expenses relating to this trial, amounting for the year to $10,444.78. We need not argue at length the impropriety of including this expense as an operating expense for the purpose of testing the validity of this gas rate. As we have already argued in connection with the increased legal expense resulting from this present suit, this special appraisement and all other expense resulting from this suit, or in any manner connected with it, cannot be included as a part of the expense to cut down the revenues for the purpose of testing the validity of the rate. It must not be forgotten, however, that in all of Mr. Lea's calculations as well as those of the master as to the net return yielded under the old rate as well as under the new, these items of expense have been included by him.

5. SUNDRY EXPENSE.

In the 1913 classification there is an account denominated sundry expense, which bears a very close similarity to the incidental expense account for the previous years which we have already discussed. It is set out in full in Adams' Exhibit "330" (p. 1502, vol. 5). It will not do to say that all of this account is to be eliminated but we will say that a very large part of it should be eliminated. It is not clear to us to what extent these items were charged to operation, but at all events the items are interesting when considered in connection with the gas business. The entries for the month of January aggregate $275 and we do not find a single item there that is a legitimate operating expense for this company. The aggregate $207.91 of the items for February we think should be entirely excluded as there is no item there shown which clearly appears as a legitimate operating expense. Certainly the item of $18.00 with the Banks Law Publishing Co. for law books for E. C. Strode was not proper nor the item of $169.23 for J. A. Bogg's note. But we will not occupy space in a further discussion of these items. We ask the court to look them over and see how many of them look like legitimate items of operating expense in the gas business.

6. TRAVELING EXPENSE.

Exhibit "321" (p. 1502, vol. 5) is the traveling expense account of 1913 and shows a total spent for traveling alone in that year of $742.25.

These gentlemen are doing far too much traveling at the expense of the Lincoln gas consumers. There is no reason why the gas consumers should be burdened with the expense of these junketing trips, and this item should be excluded from the operating expenses, not only for 1913, but for all years preceding. It will be seen that for the years previous

to 1913, these traveling expenses were run into the "incidental expense account," and that 1913 was not an exceptional year for traveling expenses.

7. PROMOTING NEW BUSINESS.

Since this Company has a monopoly of the gas business in Lincoln, one would naturally think that the expense of promoting new business would be very small. Everybody knows what gas is used for. Gas has been used in this country for about a hundred years. The public needs very little education as to the use of gas. Yet this Company for a number of years has been spending an enormous sum annually to promote new business. Exhibit "326" (p. 1502, vol. 5) is the new business account for 1912 and it shows that the Company spent in that year for promoting new business $19,696.64. We have already had occasion to refer to this expense in connection with the matter of "going value." We have pointed out that for ten or twelve years this Company has had a new business department and has been spending large sums of money to promote new business and now that the new business has been promoted to its present proportions Mr. Lea seeks to capitalize the business thus built up to the extent of $225,000 as an asset upon which the Company is entitled to earn dividends. We contend that insofar as it is proper to spend the revenue of the Company to build up the business and charge the same to operating expense that this is the sum total of the burden which the public should be called upon to bear in connection with the matter of building up the business and to include the business thus built up and charged to the expense of operating as an asset of the Company upon which it is entitled to earn a return is nothing but duplication. Mr. Whitten in his work on valuation of public service corporations (Sec. 641), says:

> "Some estimators, while allowing in the valuation for a capitalization for the cost of promoting business, nevertheless treat the current expenditures for this purpose

> as an operative expense in estimating future income requirements for rate purposes. Of course this is wrong, for this item cannot be charged both to operation and to capital."

If, therefore, the court shall conclude that "going value" is a proper element to include among the assets of the Company for rate purposes it seems to us that it necessarily follows that all of this item for the promotion of new business should be eliminated from the operating expenses to avoid duplication.

And whether eliminated or not it certainly requires no extensive argument to show that approximately $20,000 is too much to spend in the single year of 1912 for promoting new business in a gas plant that has absolutely no competition in the sale of that commodity. It is ridiculous to claim that any such expense is either necessary or reasonable. If anything is allowed for the item of promoting new business it should be a modest sum and it was for the Company to show just what that sum should be and it has failed to do so.

This record shows that the total amount spent by this company to promote new business alone for the years 1903 to 1913, inclusive, amounts in the aggregate to $155,610.93, as the following table will show:

NEW BUSINESS EXPENSE.

1903 (Adams' Ex. "281," bot. p. 1481)...	$ 5,578.97
1904 (Adams' Ex. "282," bot. p. 1482)...	16,400.65
1905 (Adams' Exhibit "283," p. 1484)...	15,919.73
1906 (Adams' Exhibit "284," p. 1484)...	13,432.41
1907 (Adams' Exhibit "285," p. 1485)...	13,394.04
1908 (Adams' Exhibit "286," p. 1486)...	11,634.96
1909 (Adams' Exhibit "287," p. 1487)...	14,019.36
1910 (Adams' Exhibit "288," p. 1488)...	16,152.75
1911 (Adams' Exhibit "289," p. 1489)...	18,985.52
1912 (Adams' Exhibit "290," p. 1490)...	19,692.64
1913 (Plaintiff's Exhibit "424," p. 2062).	10,399.90
Total	$155,610.93

We not only contend that this expense is almost wholly unnecessary in the case of a monopoly of a commodity so well known, and so long used as gas, but we also contend that if any new business at all has been brought to the Company as a result of this expenditure, *it is insignificant as compared to the result which would have been obtained by saving the money and reducing the price of gas correspondingly.* A simple announcement, each year, that the Company had reduced gas to the extent which would be represented by this new business expense, would have done far more to bring new consumers to the Company, and to encourage old ones to consume more gas, than a policy of exacting exorbitant rates from gas consumers and spending it in subsidizing newspapers in the form of advertising, donating large sums to commercial clubs and other institutions, spending large sums in divers forms of entertainment, and donating to bankers, city officials and prominent business men free gas and electricity at the expense of other consumers, and running these donations into the operating expense as so much money paid out, could possibly do. And what is more to the point, a reduction of the rate, even though it brought about reasonable economy, cut down the advertising bills, cut out the junketing trips for the heads of the departments, and put an end to the cigar bills, cafe bills and other forms of extravagance, would have inured to the benefit of the gas consumers from whom this company draws all of its money, and would have created a proper, healthy relation between the company and the consumers, which would end this litigation and wipe out practically all of its legal expense.

In order that it may be seen how this money is spent we direct attention to Exhibit "326." (P. 1502). It will be seen that a very large amount of the money is spent for advertising in the various newspapers and publications in the city and by electric signs and window display. A very

large part of the money, and perhaps the largest part, is used in connection with demonstrating appliances, such as gas stoves and electrical appliances, and it must not be overlooked that the total money spent to promote new business is to promote the electric business as well as the gas business, and also to promote the sales of gas appliances and electric appliances. The electrical department has strong competition, but the gas department has none. There is some reason for spending money to promote and build up the electrical business where competition exists, but there is little excuse for spending much money in promoting the gas business where there is no competition. *Yet this company apportions this new business expense 80 per cent to the gas department and 20 per cent to the electrical department.* We have here, then, not only a sum of money spent for the promotion of new business which is enormously excessive, but it includes the sale of gas and electrical appliances, which do not belong to a public service business, but is a purely private business in competition with various dealers of the city who handle the same articles, and it includes the electrical department as well as the gas department, and yet 80 per cent of the entire expense is entered in the operating expenses of the gas department.

8. OFFICE RENT.

This company, during the pendency of this suit, and in spite of the fact that this "confiscatory rate" was staring it in the face, entered into a lease for an elaborate office at the corner of Fourteenth and O streets at a rental of $450 per month. In order that the court may see how poverty-stricken this corporation is, and what a scrupulous regard it has for the conservation of its revenues, we have caused two photographs to be taken, one of the interior and one of the exterior, of this magnificent office. Exhibit "336" (p. 1590, vol. 5) is the exterior view of a part of this office only.

The entire ground floor being too long for the capacity of the camera, the photographer was only able to take that portion of this side of the building devoted to displaying gas and electrical appliances, which may be seen in the windows. The elaborate and magnificent offices, occupied by the heads of departments and clerical force of this corporation, are still farther to the rear of the building. They are very luxurious in their furnishings, the cost of which is reflected in Mr. Lea's inventory where the details are given (Exhibit "7-I," p. 1320, vol. 4), showing a total valuation of the office furniture and fixtures alone of $13,031, two-thirds of which, or $8,606, is apportioned to the gas department.

Exhibit "335" (p. 1590, vol. 5) is an interior view of the main office only, showing the display room with its beautiful chandeliers, electric fans, upholstered settees, marble wainscoting, palms, etc., etc. We regret that the magnificent quarters of the heads of departments (by which term we mean the same gentlemen whose Country Club dues and Commercial Club dues, cafe and cigar bills are entered in the operating expenses of the Gas Company) cannot be shown in this photograph. They are farther to the rear and this enables the occupants to transact so much of the business as is transacted by them away from the noise and turmoil of O street and away from the vulgar crowd.

We call attention at this point to the enormous increase in the value of the office furniture alone resulting from the opening up of this magnificent new office. Let us quote the testimony of the manager, B. C. Adams (p. 1294, vol. 4):

Q. Mr. Adams, the item of office furniture is carried on your books and inventory at what valuation?

A. $12,391.21.

Q. And the same item is carried on the books at a valuation of what in 1901?

A. Well, it wouldn't be the same item. The same heading was carried at $240.

Q. In other words, you had your office furniture valued November 30, 1901, and entered on your books at a valuation of $240?

A. Yes, sir.

Q. Whereas you have it now $12,391.21?

A. Yes, sir.

Perhaps the logical place to discuss the matter of office furniture was in connection with the works equipment where it is classified by Mr. Lea. But since the enormous increase in the office furniture was made necessary by the establishment of the new office, we beg leave to discuss the item briefly at this point in connection with our criticism of the item of office rent. If this gas business could be conducted up to 1901 with an investment of $240 in office furniture, we are entirely unable to understand why the consumers of gas and electricity should be called upon now to pay a return upon an investment for office furniture alone of $12,391.21. No such investment is necessary, and the photograph of the interior of the office to which attention has been called will show that this office is far more elaborate than can be justified, especially when the expense is to be used to assist in striking down a gas rate.

Is there any justification for this company paying $450 office rent to conduct a business which has no competition and which could be conducted with just as much convenience to the public and with more profit to the company on a side street and at a rental of from $100 to $150 per month? We call attention to the testimony of George Monagan (beginning on page 572, vol. 2), as to rents on some of the side streets in the city of Lincoln as follows:

No. 934 P street, $100 per month; No. 938 P street, $75 per month; No. 1200 P street, $90 per month; No. 1204 P street, $80 per month; corner room same building, $90 per month; Brownell block, 135 So. Eleventh street, north room, $135 per month; south room $150 per month. North room occupied by a piano store, south room by a cafe; both rooms with full basement and each with as much or more space as the main floor of the Gas office. No. 143 So. Eleventh street, occupied by Stamm's dry goods store, with full basement, $125 per month; floor space larger than floor space at Gas office.

Now, there isn't any reason why this company should expend for rent to exceed $150 per month, and this testimony of Mr. Monagan shows that $150 would be ample to procure an adequate and sufficient office room to transact the gas business. Mr. B. C. Adams, the manager, undertook to justify this office rent. He claims that this office is necessary for the convenience of the public in the matter of paying gas bills, and registering kicks, but the location of the present office is not as convenient for the public as many of the buildings referred to in Mr. Monagan's evidence. All of the buildings referred to by Mr. Monagan are more nearly in the center of the business district of Lincoln than the present gas office. It is notorious that O street rentals are all out of proportion to the rentals on the side streets. Merchants and others engaged in business having strong competition are willing to submit to the exorbitant rentals for the privilege of being located upon O street, the principal business street of the city, but for a business like the gas business, free from competition, a location on any of the side streets would answer every purpose and would reduce the rent to not over $150 per month. We therefore contend that the item of office rent should be reduced to not to exceed $150 per month.

(b) IMPROPER ITEMS.

1. LOSS ON APPLIANCES.

Again we call attention to the fact that one of the reasons assigned by Mr. Adams, the manager, for the necessity of having this office on O street is that it was necessary for the purpose of making a proper display of gas and electric appliances. As to this point we wish to say that the sale of gas and electric appliances is no part of a public service business and the public has no power to regulate the prices or any control whatever over that branch of business. It is purely a private business, coming directly in competition with other dealers in the city handling the same kind of appliances. The public should not, therefore, be directly or indirectly burdened by this appliance business, either in the form of an increased rental so as to display appliances, nor by reason of any loss sustained in the sale of appliances.

We call attention to the fact that the annual report of the gas department for 1912 shows a loss on appliances alone of $7,301.93, and this loss, of course, is a part of the operating expense in the gas department (see B. C. Adams' testimony, p. 1294, vol. 4), as follows:

Q. Isn't it a fact that your annual report ending December 31, 1912, shows a total loss on gas appliances alone of $7,301.93, or thereabouts?

A. I don't remember; I could tell by looking at the report.

Q. What do you recognize from this report? (Handing paper to witness.)

A. Referring to the copy of the report handed me, are the totals for advertising and newspaper space, exhibition, salaries, wages and miscellaneous expenses, and then adding the cost of appliances sold to the appliance expenses and from that getting the total cost of the appliances, and then deducting the amount received from appliances, I find for the year represented in this sheet $7,301.92.

Q. And that is a loss that is reflected in the operating expenses of this company for that year, is it not?
A. Yes, sir.

Now, we submit that this is a pretty piece of business management. The logic runs thus: This expensive office is made necessary in order that the company may have a display window on an O street corner in which to display appliances in order that it may lose over seven thousand dollars in one year as a net result. If these people like this appliance business and wish to continue to dabble in it, then they ought to be required to pay the extra rent made necessary by that business and the gas consumers ought to be relieved, not only from the excessive rent, but from the entire loss sustained in the appliance business. This item of $7,301.93 should therefore be eliminated.

The following quotation from *San Diego Water Co.* v. *City of San Diego*, 62 A. S. R. 261, 275, is in point on the proposition that all expenses not actually incurred in supplying gas should be excluded:

> "Whether all of the items complained of are proper or improper cannot be determined upon this record, but some of them are not shown to be proper. It will be the duty of the court on a re-trial to allow no item of expenditure which is not satisfactorily shown to be an actual and proper charge *in the actual conduct of the business of supplying water;* and when legal or other general expenses are claimed, they must be shown to have had a proper relation to *that business.*"

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2. EAST LINCOLN DISTRICT HOLDER AND SUBURBAN SERVICE.

We contend that if it had not been for the installation of the gas service at University Place and Havelock the East Lincoln district holder would never have been erected. A. D. Adams makes it quite clear in his testimony that the erection of the district holder and the extension of the mains to Havelock and University Place were coincident in point

of time, and were really a part of the same piece of construction. He also shows that there is no justification, and no economy, in establishing a district holder away from the plant for the benefit of the Lincoln service, and that it is not the modern method of overcoming pressure difficulties. He shows that if the district holder had been established for the purpose of correcting difficulties in the pressure in the city of Lincoln, there was as much or more necessity for it in southeast Lincoln than in East Lincoln, and he calls attention to the main maps of the company in support of his testimony (see p. 2546).

We wish to call attention to Exhibit "389" (bot. p. 228-29, vol. 5) a copy of a letter written by the manager of this company to the New York office to the effect that it would not be wise to attempt to install gas stoves in Havelock until the completion of the East Lincoln holder, because the pressure there would be inadequate without the holder (see also Wettling's testimony p. 4199). So we contend that the East Lincoln holder, even though it may serve some purpose in assisting the pressure in that locality, was erected primarily on account of the University Place and Havelock service, and would not have been erected but for such suburban service; and as we have already said, the total investment in the East Lincoln holder, and the buildings and equipment there located, should be eliminated from the inventory of property to be considered here and the total expense incident to the maintenance of the East Lincoln holder should also be eliminated. The annual report of the company shows a charge to operating expense for maintaining this district station, $3,425.13 for the year 1912, and the testimony of the company's witnesses concedes that this East Lincoln holder is connected up with the Havelock and University Place service, and at least a part of its purpose is to furnish pressure for those suburbs, and without this holder the suburban pressure would be

inadequate. Since it admitted that this East Lincoln holder is used at least jointly between the East Lincoln service and the suburban service, the burden was upon the company to show what, if any, part of the investment should be included in the Lincoln inventory, and what, if any, part of the expense of maintaining and operating this district holder station should be included in the operating expenses of the Lincoln service, and since the company has not furnished the means of making the proper apportionment, the whole matter should be disregarded and eliminated from consideration here.

And we think it will not be seriously controverted that the expense of the Havelock and University Place service should be excluded entirely as well as all of the receipts from that service, but merely to exclude the operating expense which the company has seen fit to assign to the suburban service does not do full justice to the Lincoln service. The suburban service should carry its share of the general expenses of the company, including its share of the manufacturing and distribution cost, as well as all of the general expenses incident to the maintenance of the office and the payment of executive salaries, and it should also bear its share of plant investment.

3. OCCUPATION TAXES.

We referred to and discussed the occupation taxes in several places in preceding portions of this brief. It is one of the items which the master included and which we contended should be excluded from the operating expenses in arriving at net revenues for the purposes of this case. We wish to make it clear that at the time this suit was begun there was in existence an ordinance in the city of Lincoln seeking to impose upon complainant an occupation tax of 2½ per cent of its gross receipts. Complainant had never

complied with this ordinance and has never paid anything under said ordinance. On the contrary it attacked said ordinance as invalid and discriminatory in its bill in this suit. The city, shortly thereafter, attempting to collect the occupation taxes under said ordinance by suit in the state courts. Judge W. H. Munger of the United States District Court, before whom this present suit was tried the first time, held said occupation tax ordinance void. The city council then on ..... 19...., enacted another occupation tax ordinance eliminating the discriminatory feature and seeking to collect from those selling both gas and electricity an occupation tax of 3 per cent of gross receipts. The complainant refused to comply with this new ordinance and did not pay and has never paid anything under it. The master held the 1907 occupation tax ordinance valid and allowed the amount of the occupation tax called for by it as a part of the operating expense of that year. The second occupation tax was not put in issue in the bill in this suit and the master allowed the amount called for by it as a part of the operating expeness in his deductions as to the rate of return for 1912, notwithstanding the company had never paid it and was defending against its collection in a suit in the state courts wherein the city was attempting to enforce it. Judge Morris, who heard the exceptions to the master's report, held the original occupation tax ordinance void.

Since the judgment in the instant case on the master's findings, the Nebraska Supreme Court held the first mentioned occupation tax ordinance void, and sustained a plea in abatement as to the second occupation tax ordinance suspending its enforcement until the termination of the instant suit in the federal courts.

See, *City of Lincoln* v. *Lincoln Gas & Electric Light Co.*, 100 Neb. 182 and 188.

As we have already said, since the complainant never paid anything under the first mentioned ordinance and since the same has finally been held void by the state supreme court, there can be no longer any claim that it was a part of the company's operating expenses at the time the gas rate ordinance was to go into effect nor at any other time.

As to the second occupation tax ordinance it is our contention that the company cannot resist payment and at the same time claim the amount of the occupation tax as a part of the operating expenses.

15. Lea's Figures as Compared With Construction Account.

Before closing this brief we wish to call attention to the striking difference between the testimony of Mr. Lea, as to the additions made to the gas plant in the several years 1907 to 1912, inclusive, and the actual record of the company as shown in its constructive account. Now, the records of this company ought to mean something, especially entries made since the last trial of this case. We are not now going back into the "dark ages" of this company, and there can be no excuse for claiming that the construction account does not contain all of the items of construction added to this plant since 1906 and the actual cost of construction. The following table tells its own story. Not only have we the construction account to compare with Mr. Lea's figures, but Mr. B. C. Adams, the former manager of the company, testified at page 1842 to the items of construction added to the plant in 1912, and his figures agree exactly with the construction account for that year. The table is as follows:

Year	Per Lea (Ex. 7-P)	Company Const. Acct. (Ex. 163)	Excess Lea Over Const. Acct.
1907	$127,638.00	$ 16,017.70	
1908	50,805.00	73,638.84	
1909	115,184.00	23,031.93	
1910	70,462.00	50,248.06	
1911	74,289.00	20,333.10	
1912	41,470.00	27,167.70	
	$479,948.00	$210,437.33	$269,510.67

Mr. Lea's additions during said years, of course, includes $113,664 for going value, and other intangibles, but deducting these intangibles from Mr. Lea's "total added" we have $366,294, as the amount which Mr. Lea estimates was added during said years to the physical property without any engineering, overhead, or other intangible elements, as against the actual figures shown by the company's construction account of $210,437, or an excess of Lea's imagination over the company's books of $155,858.

Now, what excuse can there be for this? If Mr. Lea is a gas expert, as no doubt he is, then he had the means of going to the construction account of the company and ascertaining exactly what the company had added to its plant during each of said years. No one claims that these records have not been accurately kept, and an inspection of them for said years will satisfy the court that they are kept with scrupulous regard to details and that nothing has been omitted. Again we ask, what may we expect of a gentleman who comes here to estimate the value of a gas plant, and who expects a court to give credence to his testimony, and yet who is willing to put into this record an estimate of actual additions made to this physical property so enor-

mously in excess of what the company itself claims, especially when he had the ready means of determining the correct amount?

Wholly disregarding Mr. Lea's inflated estimate, and taking the company's records for it just as they are, we find that there has been added to this plant, since the last trial, by way of extensions, a very large sum. We are therefore now testing this rate ordinance, which was to go into effect in December, 1906, not by the property which the company had then, but by what it claims to have now. It was, therefore, to a very large extent, within the power of this company to endanger, if not to defeat, the rate by arbitrary additions to its plant while the rate suit was pending, and doubtless these large additions to the plant may be accounted for in this way. The plant has been extended, especially in the matter of holder capacity, far beyond present needs, and with a view to large future growth. In considering the validity of this rate, the court should remember the temptation placed before this company to add enormously to the value of its property and to build far beyond present necessity, in order to get the benefit of the increased value thus added in testing this rate. Careful consideration should therefore be given not only to the present value of the property, but also as to the actual necessity of these extensions. If the company has built beyond present necessities, this rate should not be endangered thereby, but the rate should be put into effect and tested out during a sufficient length of time to allow these new additions of the company to reach their full earning capacity and to permit the business of the company to overtake the extensions.

See *Spring Valley Water Co.* v. *San Francisco*, 165 Fed. 667.

The East Lincoln holder should be charged to the suburban service, for which it was primarily constructed, and this

should include all of the expense of maintaining that holder. In this connection we again call attention to Exhibit "389," being a letter from the manager of this company to the New York office, in which reference is made to the Havelock service and the East Lincoln holder. This letter contains the following language:

> "Our revenue in University Place for the first full month we have had, was $102. Things are going rather slowly out there at present, due to the dry condition of the surrounding country, so I am told. I feel, however, that since our first month's bills have been distributed, we will have pressure brought to bear on prospective customers by those already using gas. We have discontinued the acetylene plant at Havelock and are now furnishing gas from our University Place mains. The Havelock consumers are using the gas for illuminating purposes only and the revenue from them is very small. We do not feel that it would be wise to attempt the installation of gas stoves until our holder in East Lincoln is erected."

Attention is also called to the testimony of Mr. Wettling, where he admits that the East Lincoln holder is necessary to the suburban service (see page 807, vol. 3).

Even if it be true that this holder aids the East Lincoln service, still the value of such aid is so doubtful that it is difficult to measure it. It seems to us that a fair way to dispose of the East Lincoln holder is to assign it, together with all of its expenses, to the suburban service, in consideration of the use of the manufacturing plant and the mains which carry the gas to the city limits, and in consideration of the fact that all of the general expense of the company is charged to the Lincoln service. According to the 1912 report the suburban sales were 3.2 per cent of the total sales. The present value of the works equipment of this plant for 1912, according to Mr. Lea, was $196,759, and the value of the real estate of the plant, according

to Mr. Lea, was $42,867; 3.2 per cent of all of this property at the plant, as valued by Mr. Lea, would be $7,667. In addition to that, the mains from the plant to the connection with the Havelock line should be compensated for, and the Havelock service should be charged with at least 3.2 per cent of all of the expenses of the company. It certainly seems to us that these would be sufficient to more than compensate for the little value added to the East Lincoln service, by the use of the East Lincoln holder.

16. Offers of Company to Install $1 Rate.

Wholly aside from expert valuation, theories and deductions, we wish to call attention to the fact that this company, on several occasions, offered to install the $1.00 rate in consideration of certain concessions on the part of the city. At the time the rate ordinance was being considered complainant proposed to the city council to install a sliding rate which would go down first, to $1.15, and then decrease five cents per year until it reached the $1.00 rate in 1911. In 1910 it proposed that if 75% of the gas consumers would waive their claims in writing, for all overcharges collected during the pendency of this suit, the $1.00 rate would be installed at once. In the fall of 1912 complainant offered to install the $1.00 rate and pay the city $20,000 of the disputed occupation taxes, and to pay the overcharges involved in this suit up to December, 1910, from which time the $1.00 rate was to be considered as having gone into effect, and that the $1.00 rate was to remain in force until January 1, 1914, when it was to drop to 95 cents, said last proposition being made as an offer looking to the settlement of this suit, the offer was rejected by the voters of the city. Now is it reasonable to suppose that the company either for or without a consideration would agree to install the $1.00 rate and even to reduce it to 95 cents if it considered either rate

confiscatory? The fact that the company offered to install the $1.00 rate implies that it was well aware that it could do so without confiscating its property. During the campaign for the proposed compromise of 1912 the company in its attempt to influence the voters to accept the offer advertised extensively in the local papers. One of its favorite productions was a cut with lines thereon indicating how much better off the public would have been had the previous offers of the company to install the $1.00 rate been accepted because, as this cut shows the public would have been enjoying the $1.00 rate from and after 1911. (See exhibit 334, page 2026, vol. 5).

17. As to the Contention That the Gas Business Is Hazardous.

Certain testimony was introduced by complainant as to the rates of return expected of business institutions in this locality. All of these witnesses admitted on cross-examination that their estimates were not influenced by locality at all and that the rates of return to which they testified as being fair were applicable anywhere. They practically all admitted that interest rates were little, if any, higher here than elsewhere, and no higher at all than at any other point in the middle west. None of these witnesses had had any experience in the gas business and their testimony had no application to a business having a monopoly upon a stand ard and necessary commodity such as gas.

We introduced in this case exhibit "17" (page 1706, vol "5"), and exhibit "18" (page 1708, vol. "5"), to which we direct the court's attention. These are circulars gotten out by Henry L. Doherty & Company, the operators of the Lincoln plant. Exhibit ',17" is a chart which shows graphically, not only the rapid and constant increase of both gross earnings and net earnings of gas and electric properties, but also shows how free such properties are from the hazards of fluc-

tuation. This chart shows what these people really think of gas properties as investments when they are not in a suit attempting to defeat rate regulation. The reading matter in exhibit "17" explains how the chart is made up, and then adds:

> "The resulting curves shown above prove that the gross and net earnings from the gas and electric business increased the most rapidly and that they are practically unaffected in their rate of increase even by such panic conditions as those of 1907 and 1908."

Erhibit "18" is a circular gotten out by Henry L. Doherty & Company with special reference to the securities of the Cities Service Company, one of the numerous companies controlled by Henry L. Doherty Company. The circular contains the following matter relative to the subject now under discussion:

> "Gas and electric properties have many strong points in their favor, tending to establish stability of earning power and safety of their securities. Their business is the selling of a public necessity. In good times or bad times their product is in demand. Luxuries may be foregone in times of financial stress, travel may be curtailed, and in many ways the public's expense may be reduced, but light and heat are a necessity of every day life and are among the last things to be affected by general conditions in business. In the present day of continual development of new adaptations and uses for gas and electricity, as well as the steady increase in the population of our American cities, there are many opportunities for expansion and growth of well managed and aggressive gas and electric companies."

As indicating what Henry L. Doherty & Company consider an attractive rate of return in a business having all of the advantages described in the foregoing quotation we quote further from said Exhibit 18:

> "Dividends are paid monthly at the rate of 6% per annum on preferred stock and 4% per annum on common stock."

And the properties which said circular tells us were owned and operated by the City Service Company, (the Doherty holding company described in the exhibit) from which said dividends were derived are the Denver gas and electric plant, the gas plant at Spokane, the electric plant at Joplin, Mo., and the Brush Electric Company at Galveston, Tex., all western concerns where rates of interest are higher than at Lincoln, with the possible exception of the Joplin property, where the prevailing interest rates are about the same.

Certainly these people can have no just criticism of the master's finding that in such a business 6% is a fair return since they themselves consider it sufficiently attractive to be held out to the public as an inducement to purchase their preferred stock, whereas 4% is good enough for one entering into the venture as a common stockholder.

18. Rate of Return.

In the preceding subdivision we referred to the fact that the master found that 6% was a reasonable rate of return at Lincoln for a business of this character, and that Henry L. Doherty & Company, the operators of this plant, also consider that rate and even 4% attractive in the case of other western plants. We shall now make a few final deductions as to the actual rate which this company would earn under the $1.00 rate. We have already shown that had the master eliminated the occupation tax from the operating expenses for 1907, his net rate of return for that year at the $1.00 rate would have been a little over 6.1% without any other alteration in his figures, this being upon the actual sales of that year and allowing nothing for the probable increase of sales under a reduced rate. We have shown, also, that complainant has been relieved of the occupation tax of that year by a decision of the Nebraska Supreme Court, and that it must therefore be eliminated. We have also pointed out that

the master found that, on the actual sales made in 1912, the company would have realized a net income at the $1.00 rate of 6.9%, whereas, if he had eliminated the occupation tax for that year the rate would have been 8% without making any other changes in the master's figures. For the intervening years he made no findings as to return but referred to Mr. Lea's figures as indicating that, for those years, the return would have been substantially higher, and he is borne out in this by Mr. Lea's Exhibit "7-P," (page 1358, vol. 4 of the printed record), where Mr. Lea estimates the "Corrected Net Earnings, Gas Department in % of Then Present Value" for said several years at the $1.20 rate as follows:

1907	1908	1909	1910	1911	1912
7.029	9.247	9.464	8.437	8.029	6.698

And in Lea's Exhibit 105 (p. 1364, vol. 4) he shows that at the $1.00 rate the return would have been, as the master states, from 50% to 100% higher for the intervening years than for either 1907 or 1912.

Since said 2xhibit 7-P is the basis for Mr. Lea's calculations of net return under the $1 rate we desire to point out wherein we think his so-called "Corrected Net Return" should be still further corrected:

18. Rate of Return.

ANALYSIS OF EXHIBIT "7P."

In Exhibit "105" (p. 1364, vol. 4) Mr. Lea has shown the net return for the years 1907 to 1912, inclusive, to the complainant from its gas department, based upon the present value of its gas property as found by him, with gas at $1.00 per thousand cubic feet. Mr. Lea's values are found under the heading "The Then Present Value of Entire Property," at the foot of each column in Exhibit "7-P," for the re-

spective years. It will be seen by an examination of Exhibit "7-P" that he has deducted from the receipts of each year all the money received from gas sales outside of Lincoln. He then credits to the operating expenses the output cost of gas sold outside of Lincoln. He then adds to the operating expenses a charge for a correction in the residual account, and then adds his full allowance for depreciation to the operating expenses. The total, after doing this, he calls "Corrected Operating Expenses Gas Department," which he deducts from the corrected gross earnings and arrives at the total "Corrected Net Earnings Gas Department." These net earnings he carries into the first figure in each column shown in Exhibit "105," and from which he deducts one-sixth (1/6) of the gross earnings in order to reduce the net income to the $1.00 basis. Using this method, Mr. Lea finds the net return to be at the $1.00 rate for the respective years:

1907	2.136%
1908	4.211%
1909	4.742%
1910	3.761%
1911	3.220%
1912	1.925%

Exhibit "7-P" is subject to the following criticisms:

The item "Gross Earnings Gas Department as Reported" does not include the non-operating revenues as disclosed by Exhibit "153." While these revenues for the years 1907 to 1910, inclusive, are small, ranging from $56.00 to $115.00 per year, the situation is different as to 1911, when these revenues amounted to $4,653.88.

The next item in Exhibit "7-P," "Deduct Receipts from Gas Sales Outside of Lincoln," is unfair in that the total property values at the foot of the various columns include all of the property outside of the city of Lincoln. We should

either exclude this property or include the revenues. It was claimed in the oral argument before the master that these properties were excluded by Mr. Lea in his corrected figures in Exhibit "425." However, upon analysis we are unconvinced that this has been done. The same is true of the item "Deduct Output Expense Gas Sold Outside of Lincoln," where Mr. Lea has ostensibly deducted the proportionate cost of manufacturing the gas sold outside of the city limits. The fact that the total operating expenses for 1912 show a cost of 74.92 cents per thousand cubic feet on all gas made, and the amount deducted from the total operating expenses on account of gas sold outside of Lincoln is but 26.43 cents per thousand cubic feet of gas, indicates another case of Mr. Lea's unfairness. (See Exhibit "7-L," p. 1358, vol. 4, Apportionment Operating Expenses 1912.) This same method was used for the other years.

His next item, "Add for Depreciation," is the total depreciation allowance. Since the various witnesses for the company have repeatedly testified that certain replacements which have taken care of depreciation were charged into operating expenses, fairness requires credits against this item for such allowance so charged into operating expenses. (See Phillips' testimony, page 1203, vol. 4.)

This exhibit is subject to the further criticism that the expenses common to both the gas and electric departments have been divided on the basis of 80 per cent to gas and 20 per cent to the electric department on the supposed basis of the relative number of consumers. Reference to Exhibit "101" (p. 1849, vol. 5) discloses that at no time during the history of this litigation has the percentage of gas consumers ever been as high as 80 per cent, and for the year 1912 it was as low as 73 per cent. Besides, the total number, as carried through the years 1907, 1908, 1909, 1910 and 1912, as will be seen where this exhibit discloses eighty consumers

less in 1912 than 1911, although the annual reports show a gain for each of these years over the year previous. It will be seen that the relative percentage during these years, 1907 to 1911, inclusive, was excessive in the gas department. Under this division these expenses were wrongfully loaded upon the gas department to the extent of at least 7 per cent of their total amount, which excess in dollars for the various years is as follows:

1909	$1,225.56
1910	816.09
1911	1,452.26
1912	3,300.35

In the handling of the percentage figures by Mr. Lea, he has included in the total amount of property on which the net return is figured all additions to the plant made during the years in which the net returns were earned. This is unfair for the reason that these improvements and additions do not serve the public for the entire period, and as a matter of fact are seldom put into complete operation much before the end of the year and allowance for interest during construction is also charged by him into the capital account. This is one of Mr. Lea's many methods of taking advantage of the law of squaring numbers. Also in his total on which he has computed his net return he has included the sum of $127,834.00 for paving over mains, which must be eliminated. In addition to this amount for paving over mains there is the further sum of $16,898.00 that should be deducted for paving over service pipes, for which the gas company did not pay one cent. Paving over mains will be found in Exhibit "7-J" under the heading "Distribution System—Street Mains, Net Construction Cost of Tearing up and Replacing Pavement" $110,202, to which we have added 16 per cent for engineering, giving $127,834.00, which, as we understand it, has been carried into the present value totals undepreciated.

Paving over services will be found in Exhibit "7-J" (p. 1258, vol. 4) under the heading "Distribution System—Services, Net Construction Cost of Tearing up and Replacing Pavement" $14,567.00, to which he added 16 per cent for engineering, etc., and carried the resultant figure into the present value total undepreciated.

In the operating expenses is included the following sums for the respective years mentioned for the items of "promoting new business:"

1907 $13,394.04 (see p. 301, vol. 1, P. R., line 4 from bot.)
1908 $11,634.96 (see Exhibit "26," P. R., line 1507).
1909 $14,019.36 (see Exhibit "27," P. R., line 1507).
1910 $16,152.75 (see Exhibit "28," P. R., line 1507).
1911 $18,985.52 (see Exhibit "29," P. R., line 1507).
1912 $19,692.64 (see Exhibit "30," P. R., line 1507).

This company has a monopoly upon an absolute necessity. No one can buy gas except from it, and any money spent in promoting new business is a total waste. The money thus spent should be reflected in rate reduction.

***

Certainly this item should be eliminated from the operating expenses. The operating expenses, as shown by Mr. Lea, include all of the expenses of this litigation, which are not properly chargeable to operating expenses in ascertaining the net return as previously pointed out. These expenses amount to approximately the following cents per M. C. F. of gas sold for the respective years:

Year	Cts. Per M. Cu. Ft. Gas Sold
1907	0.71
1908	0.43
1909	0.42
1910	2.32
1911	3.15
1912	2.90

being the excess over light expense of the last normal year, to-wit: 1906. (See table, page 187 ante.)

There should also be deducted the excess paid for executive salaries, in cents per M. C. F. gas sold as follows:

Year	Cts. Per M. Cu. Ft. Gas Sold
1908	0.77
1909	1.20
1910	2.88
1911	2.37
1912	2.01

We have corrected Exhibit "7-P" to show the net earnings of complainant, on Mr. Lea's valuation, with the following result:

EXHIBIT "7-P" (op. p. 1358, vol. 4)—CORRECTED.

Year Ending December 31st	1907	1908	1909	1910	1911	1912
Gross Earnings Gas Dept. as Reported	$215,776.20	$234,347.51	$245,124.74	$251,942.37	$274,292.95	$282,162.11
Deduct Receipts from Gas Sales Outside Lincoln	888.00	1,554.58	1,249.18	2,984.66	6,270.98	8,986.18
Corrected Gross Earnings of Gas. Dept.	214,888.20	232,792.93	243,875.56	248,957.71	268,021.97	273,175.93
Non-operating or Miscellaneous Revenues (Ex. 153)	100.00	56.00	115.77	109.15	4,653.88	
Actual Gross Earnings Gas. Dept. in Lincoln	214,988.20	232,848.93	243,991.33	249,066.86	272,675.85	273,175.93
Total operating Expenses as Reported	141,924.37	137,090.35	134,709.24	143,670.45	158,374.11	175,573.49
Deduct Output Cost Gas Sold Outside of Lincoln	302.88	464.27	321.17	566.73	1,184.38	1,873.62
Deduct for—						
1. Portion cost gas sold outside, not deducted by Lea	282.60	444.58	364.97	685.58	2,327.43	3,437.46
2. Excess common expense charged gas dept.			1,225.56	816.09	1,452.26	3,300.35
3. New business expense	13,394.04	11,634.96	14,019.36	16,152.75	18,985.52	19,692.64
4. Excessive legal expense	1,250.38	815.20	752.00	4,659.72	3,955.66	5,896.09
5. Excessive executive salaries		1,370.32	2,136.08	5,749.75	4,920.13	3,814.04
6. Excessive incidental expense		795.79	1,562.94	782.16	2,722.29	2,050.00
7. Shortage gas making coal						100.00
Total to deduct	15,229.90	15,525.12	20,382.08	29,412.78	35,547.67	40,164.20
Leaving	126,684.47	121,586.25	114,326.16	114,257.67	122,826.43	135,409.29
Add for correction Gas Coal Shortage			100.00			
Add for proper adjustment Residuals	807.38	877.31	914.14	940.26	1,004.47	1,027.38
Corrected Operating Expenses	127,501.85	122,442.56	115,340.30	115,197.93	123,830.90	136,436.67
Corrected Net Earnings Gas Department	87,386.35	110,406.37	128,651.03	133,868.93	148,844.95	136,739.26
% Net Return on Lea's Present Value	10.5	12.6	13.2	13.02	13.6	12

On the basis of Mr. Lea's present valuation for January 1, 1913, as corrected by him, (Ex. 426, page 2063, vol. 4), viz, $1,090,913, after deducting therefrom the sum of $144,732, included by him for paving over mains and service pipes which were laid before the city paved the streets, then deducting from his total receipts one-sixth of the amount to reduce to the $1.00 basis, and eliminating $7,050 occupation tax which he included in his operating expenses his net return on his own valuation thus modified, and at the $1.00 rate would be 6.53%. And we must remember, too, that Mr. Lea's present value includes $225,000 as a separate item of going value, some property outside of Lincoln, all of the value of the East Lincoln holder, (used primarily to furnish pressure for the suburbs), and a working capital several times larger than any ever used by the company, and also over $30,000 of service pipes paid for by gas consumers and which the master eliminated.

FINAL DEDUCTIONS AS TO NET RETURNS.

1. With operating expenses reduced to the normal of other companies.

Mr. Adams, in Exhibit "342," (top p. 1592, vol. 5) shows in cents per thousand cubic feet of gas sold what the salaries, office, distribution and general expenses of the complainant should properly be for the years 1905 to 1912, inclusive, beginning with 15 cents for 1905 and ending with 12 cents in 1912. He substantiates his estimate with Exhibit "349," (p. 1595, vol. 5) which shows what twenty-four different plants in Massachusetts, six of them having an output within the range of the output of the complainant, during the period from 1905 to 1912, paid for these expenses. He has also shown, in Exhibits "283" to "290," inclusive, that these items have cost the complainant all the way from 23.10 cents in 1905 to 31.12 cents in 1912 per thousand cubic feet of gas sold.

In Exhibits "283" to "290," inclusive, (p. 1483 to 1490, vol. 4) Mr. Adams has set out all of the expenses except the materials and labor, making gas, repairs, renewals and taxes actually incurred by the complainant. The items included in these exhibits correspond with the items covered in Exhibit "349." Included in Exhibits "283" to "290" are the items, Promoting New Business, Executive Salaries, Legal Expenses and Incidental Expenses, the history of which during the last six years is very enlightening, and is set out below in cents per thousand cubic feet of gas sold:

		Ex. 101						
		Ex. C	P. R.	Ex. 26	Ex. 27	Ex. 28	Ex. 29	Ex. 30
	Line	1906	1907	1908	1909	1910	1911	1912
Prom. new bus.	1507	.0874	.0747	.0596	.0686	.0769	.0835	.0840
Executive sal.	1500	.0182	.0179	.0256	.0299	.0467	.0416	.0380
Legal expense	1505	.0049	.0120	.0092	.0091	.0281	.0364	.0339
Incidental exp.	1503	.0139	.0096	.0137	.0182	.0137	.0227	.0204

It will be seen by a comparison of the column for the year 1906 with the column for the year 1907 in the above table that these items of expense show the normal course under the circumstances, the only increase being in legal expenses, which was due to this litigation, which commenced on or about the 1st of January, 1907. The abnormal increase commences with the year 1908 and continues throughout the years 1909 to 1912, inclusive. The increase of the legal expenses in the year 1912 over 1906 is almost 600 per cent. The increase in executive salaries from the last normal year, 1907, to 1912 was 2.39 cents per thousand cubic feet of gas sold, or almost 150 per cent. The other two items, should be eliminated entirely for the reasons heretofore given. The elimination of these two items, the excess in executive salaries, and legal expenses above pointed out calls for the reduction in the complainant's operating expenses of 9.14 cents per thousand cubic feet for the year 1907, 8.17 cents for the year 1908, 10.30 cents for 1909, 14.26 cents for 1910, 16.14 cents for 1911, and 15.35 cents for 1912.

In addition to these amounts there should be deducted from the operating expenses the expenses of the district holder station, and for furnishing pressure to the suburbs, which, for the year 1911, was .64 of 1 cent per thousand cubic feet of gas sold. Also for the year 1912 there was charged into the operating expenses $800 for a shortage in the coal stock appearing after the discontinuance of the manufacture of coal gas. This expense was properly chargeable to the manufacture of coal gas during the last year or so that the company was manufacturing coal gas, and was included in its operating expenses for the year when purchased, and then if these general expenses covered by Mr. Adams in his Exhibits "283" to "290," inclusive, are divided or apportioned between the gas and electric departments, upon the basis of the number of consumers in each department, there is still a further reduction to be made in the amount apportioned to the gas department for the reason that, as shown in Exhibit "101," the percentage of gas consumers in 1912 is 73, and the percentage of electric consumers is 27, while the division of these expenses has been made since some time in 1908 upon the basis of 80 per cent to gas and 20 per cent to the electric department. This would affect the items of general expense included in Mr. Adams' Exhibits "283" to "290," inclusive, to the extent of 8 3/4 per cent for 1912 and varying percentages back to 1908. After computing this through the various years mentioned, we find that the net amount of expense chargeable for the items covered by Mr. Adams' exhibits "283" to "290," inclusive, should be as set out in the first column below, which we will compare with Mr. Adams' figures as set out in the second column, as follows:

	Company's Corrected Expense		Adams' Estimate
1907	11.32	1907	13.50
1908	12.04	1908	13.00
1909	10.93	1909	12.5
1910	13.44	1910	12.5
1911	13.34	1911	12.
1912	13.08	1912	12.

Extended into dollars, we have:

	Company's Corrected Expense		Adams' Estimate
1907	$20,294	1907	$24,214
1908	23,525	1908	25,400
1909	24,514	1909	25,535
1910	28,246	1910	26,271
1911	30,317	1911	27,272
1912	30,657	1912	28,126

The excess of the complainant's expenditures over the above amounts for these items is as follows:

	Company's Corrected Expense		Adams' Estimate
1907	$16,618	1907	$12,698
1908	16,541	1908	14,666
1909	23,323	1909	21,302
1910	30,689	1910	32,665
1911	38,373	1911	42,418
1912	42,287	1912	44,818

Deducting this from the reported operating expenses for the years 1907 to 1912, we have as the corrected operating expenses for:

1907	$129,226
1908	122,434
1909	113,406
1910	111,005
1911	115,956
1912	130,755

To which must be added the allowances made by Mr. Adams for depreciation, renewals and repairs (Exhibit "430½," p. 1632, vol. 5), less what the complainant expended for that purpose (Exhibit "309," bot. p. 1496, vol. 5), which gives as the proper total amount to be deducted from the gross earnings, to show the net revenue:

1907	$132,448
1908	131,104
1909	122,687
1910	119,199
1911	121,512
1912	140,139

Deducting the above amounts from the gross receipts reported from the sales of gas within the city of Lincoln, corrected for the difference between $1.20 per thousand and $1.00 per thousand, we get the following net revenue for the respective years:

1907	$ 46,567.00
1908	62,610.00
1909	80,332.00
1910	87,725.00
1911	102,056.00
1912	87,159.00

On Mr. Lea's corrected valuation, as of January 1, 1913, $1,090,913 (Exhibit "425-A"), the above net income for 1912 ($87,159), would be at the rate of 8 per cent. On Mr. Lea's valuation with all paving ($124,769) eliminated, the return would be 9.2 per cent. On Mr. Lea's valuation with all paving and going concern eliminated, the return would be 11.7 per cent. On Mr. Lea's valuation with all paving, going concern and all property outside the city limits eliminated, the return would be 12.3 per cent. On Mr. Lea's valuation with all paving, all property outside the city limits, the East Lincoln holder, and going concern eliminated, the rate would be 12.8 per cent.

On Mr. Adams' valuation as of January 1, 1907, $299,915, the net income for that year of $46,567, would be a return at the rate of 15.5 per cent. On Mr. Adams' valuation as of January 1, 1913, $435,745, the net income for that year, $87,159, would be a return of 20 per cent. On Mr. Adams' valuation as of January 1, 1907, with deductions of useless and unused property, and also eliminating paving over mains, the net income for that year would be 17 per cent. On Mr. Adams' valuation as of January 1, 1913, same items of property eliminated, the net income for that year would be 23.2 per cent.

2. By Eliminating a Few of the Larger Items of Expense.

As we have pointed out, the Company lost on the sale of gas appliances in 1912 the sum $7,301.93 and charged this loss into its operating expense for that year.

There was charged into the operating expenses for the same year $19,692.64 for promoting new business. The master allowed $12,000 of this to stand.

There was also included in the operating expenses for that year $7,954.73 for legal expense. The legal expense for the year 1906 before this present suit was started was $757.43. The increase has been wholly chargeable to this rate litigation. The legal expense for 1912 was therefore excessive by $7,000 for the purposes of testing this rate.

In order to have a display window on a prominent corner for displaying its gas and electric appliances, complainant pays $450 per month in rent, instead of using an office just as serviceable for the gas business on a side street at from $100 to $150 per month. The rent is therefore excessive to the extent of $3,600 per year.

The executive salaries paid to the New York office are wholly unnecessary. The master eliminated part of them. They should all go out. The above mentioned items should all be deducted from the operating expenses allowed by the master for 1912, viz:

Loss on appliances	$ 7,301.93
Amount of new business expense allowed	12,000.00
Excess legal expense due to this suit	7,000.00
Excess office rent	3,600.00
President's salary, allowed by master	2,400.00
Salary of New York secretary	300.00
Total	$32,601.93

After allowing all of the above items as a part of the operating expenses for 1912, the master found that the net income for 1912 at the $1.00 rate would have been $46,658, or 6.9 per cent on the then present value of the property of complainant, including $40,000 of going value, and without taking into account probable increased sales under the new rate.

If we eliminate the above items from the operating expenses and allow all the rest of the master's figures to stand the net return would be $79,259, or over 11.7 per cent on his then present valuation.

CONCLUSIONS.

This complainant is not being oppressed by the city of Lincoln. Prior to the passage of the rate ordinance here attacked, the Company sold gas at such prices as it saw fit to charge. It has always had a monopoly of the gas business in the city of Lincoln. Lincoln is now, and for the last twenty years has been, one of the most prosperous cities of its size in the west. We doubt if there can be found a city of its size in the United States where there is less poverty and

more genuine prosperity. The city is more prosperous and is growing more rapidly now than at any time in its past history. It is a city of comfortable modern homes and the citizens spend their money freely for all that tends to contribute to their comfort. No one would think of building a home in Lincoln without installing gas service if within reach of the gas mains. Practically all cooking is done with gas. At the time this ordinance was passed, gas was selling in western cities of the size of Lincoln and less, at from ninety cents to one dollar per M. cubic feet (see table, page 1602, vol. 5). And in cities farther east where gas consumption was practically the same as in Lincoln and where the cost of making and distributing gas was substantially the same, patrons were getting gas from seventy-five cents to one dollar per M. cubic feet (see table, page 1603, vol. 5). This city felt that it was entitled to get its gas at terms as favorable as those prevailing in other cities similarly situated as to location, population and gas consumption, and we think the evidence contained in the record in this case clearly demonstrates that they were not only right but that they were and are entitled to a still further reduction of the rate.

We submit that the judgment, dismissing the bill in this case, should be affirmed.

Respectfully submitted,

C. PETRUS PETERSON, and
WILLIAM M. MORNING,

Attorneys for Defendants.

ADDENDUM.

Comparison of Master's Valuation of Physical Properties with Valuation of the Same Properties by the Company's Expert Witness, Mr. Lea.

The master's total valuation Jan. 1, 1913, as per his report		$676,565
Deduct:		
Working capital	$60,000	
Going value	40,000	
		100,000
Master's valuation of physical property		$576,565
Mr. Lea's valuation Jan. 1, 1913 (Appellant's Brief, p. 108)		1,090,913
Deduct:		
Working capital (Appellant's Brief, p. 219)	$72,037	
Going value (Appellant's Brief, p. 19)	225,000	
Paving over mains (Appellant's Brief, p. 17)	142,291	
Services paid for by consumers (Master's report)	30,484	
Organization, legal expense, etc., included by Mr. Lea over and above allowance for overhead expense (Appellant's Brief, p. 30) (Discussion of elements entering Printed Record, p. 417)	33,000	
		$502,812
Lea's valuation of physical property		588,101
Master's valuation		576,565
Total difference between Master and Lea		$11,536

This comparison shows an actual difference in valuation of less than 2 per cent. In these figures inhere all the elements going to form the valuation, net construction cost, reproduction cost, depreciation, and present condition. So far as valuation is concerned it is of small consequence what the intermediate steps were in forming the conclusion, the conclusion only can influence the result of this litigation.

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SUPREME COURT OF THE UNITED STATES.

OCTOBER TERM, 1917.

No. [redacted]52

LINCOLN GAS & ELECTRIC LIGHT COMPANY,
Appellant,

vs.

THE CITY OF LINCOLN ET AL., Appellees.

SUPPLEMENTAL BRIEF OF APPELLEES.

C. PETRUS PETERSON,
W. M. MORNING,
Attorneys for Appellees.

SUPREME COURT OF THE UNITED STATES.

OCTOBER TERM, 1917.

No. 300.

LINCOLN GAS & ELECTRIC LIGHT COMPANY,
APPELLANT,

vs.

THE CITY OF LINCOLN ET AL., APPELLEES.

SUPPLEMENTAL BRIEF OF APPELLEES.

To the Honorable Justices of the Supreme Court of the United States:

By reason of the fact that brief of appellant was filed out of time it was impossible to include in appellee's brief a reply to some of the arguments therein set forth. In order to have such reply before the court in the form of a brief, this supplemental brief is presented:

1. *The Complaint About the Master's 1907 Valuation.*

When Judge Sullivan, as special master, went over the record before him, he found all valuations presented by the appellant to be as of January 1, 1913. By theoretical proc-

esses the company's expert witness, Mr. Lea, with 1913 as a starting point, but without a separate valuation for 1907, sought to establish the value of the property as of the earlier date. Mr. Lea's valuation for 1913, being the depreciated value for that year, was $1,090,913, and his 1907 valuation on the same basis was $784,682, a difference in values between the two dates of $306,231. The master found a difference in value of $240,000, or $66,231 less than Mr. Lea's figures. While the master is $66,231 below Mr. Lea, complaint is made that the master's figure is too high.

Counsel contend that Judge Sullivan has fallen into a serious mathematical error. It is apparently the contention that the master was presented with a problem in arithmetic and that he has not followed the rules of arithmetic in its solution. It had not occurred to us that this appeal was for the purpose of grading Judge Sullivan on his mathematics, though we should not fear the result if that were the purpose, but we assume that the question on the appeal is the correctness of the result rather than the class-room inquiry as to mathematical formula.

Ingenious as the argument first appears, that the master has deducted the value of the additions to the plant made between 1907 and 1913, thereby leaving the 1913 value of the properties found in 1907 as the 1907 values of such properties, the argument fails when measured by the language of the report. The fallacy of the argument consist in indulging the unwarranted presumption that the master, for purposes of the inquiry, divided all properties of the company into two classes, properties found in 1913, which were in existence in 1907, and properties found in 1913, which were not in existence in 1907, and that the combined value of the two classes was $676,565, and the properties of the latter class $240,000. That this is not in accord with the facts, clearly appears from the master's report (Printed Record, p. 52).

> "If the value of plaintiff's property, tangible and intangible, on January 1, 1913, was $676,565, as I

> have found it to be, its value January 1, 1907, may be readily ascertained by eliminating all *values* added to the plant between these dates. The construction account shows the original cost of all such additions to the physical property to be $210,437. An estimate given by Mr. Lea increases this amount to $371,294; and by an addition of $108,664 for going value, working capital, organization and legal expenses, he further increases it to $479,958. According to Mr. Adams' estimate, the tangible property was worth $135,830 less January 1, 1907, than on January 1, 1913. Just what the actual increase of structural cost was is not entirely clear, but from a full consideration of the evidence, I find that all *values* tangible and intangible added to the plant between January 1, 1907, and January 1, 1913, were worth, at the latter date, $240,000. Deducting this amount from $676,565, the value of January 1, 1913, leaves $436,656 representing the investment upon which the company was entitled on January 1, 1907, to receive a fair return."

The master clearly, sharply, and unerringly distinguishes between additions to the physical property and "added values." Throughout the record it is conceded that the company has not kept a separate replacement account, but all replacements have been charged to an account known as repairs and maintenance. (See Printed Record, pp. 756 and 1293, testimony Mr. Phillips.) It is also clear from the record that another account, known as the construction account, was kept, into which went all items representing new construction, or such cost of a replacement item as the cost of the unit put in exceeded the cost of the unit replaced. The master allowed a depreciation reserve in 1907 of $10,000 per annum and in 1913 of $12,000 per annum. It is not contended that this depreciation reserve has been set aside, or that it was on hand at the time of the hearing, but on the contrary, it appears that it had been spent to keep the plant in proper condition and to conserve at par the value of the plant.

Appellant's argument proceeds on the premise: "The company's property, beginning 1907, is depreciating at the rate of $10,000 per year." The conclusion drawn is: "The company's 1907 property in 1913 is therefore worth $60,000 less than in 1907." This appears plausible until it is remembered that each year the company has collected just those $10,000 and spent them to keep the property worth the same in 1913 as in 1907. This is a standing and unvarying "value." Anything added beyond that is "added values," as used in the report of Judge Sullivan; not added property, but "added values." It is entirely proper, and does not constitute even a mathematical error and still less an error in result, to deduct such added values from the 1913 depreciated valuation to determine the 1907 value. Doing so is just another way of saying that the plant was worth in 1913 $240,000 more than it was worth in 1907.

2. *Appellant's Argument on Going-Value.*

Appellant has in its brief (pages 70 *et seq.*) taken a position on going-value which is fallacious for two reasons:

(1.) It is assumed that the master found a going-value of $140,000 and eliminated therefrom $100,000. This is in direct conflict with the express language found in the master's report, where the master states: "The record shows that between 1906 and 1913 the company paid out of its earnings and charged to operating expenses about $100,000 for the promotion of new business. In view of this fact, I conclude that an allowance of $40,000 for going-value is sufficient."

The argument that this $100,000 found by the master to have been expended for the promotion of new business and charged to operating expense forms a part of going-value, is the most direct and admitted capitalization of surplus earnings which could very well be conceived. That this is appreciated by counsel for appellant appears very clearly

from the statement of the argument. So manifest is the position taken that appellant asks for a reversal of the recent case of Des Moines Gas Company *vs.* Des Moines, 238 U. S., 153 (Appellant's Brief, p. 85). Counsel agrees that there is no evidence in the record of any early losses which should be taken into account in fixing going-value, but it is contended very frankly that, in the absence of any such expenditure in the early history for that purpose and in the face of the record that in recent years all expense for doing the things which, when paid for out of capital as distinguished from earnings, makes going-value, have been charged to operating expense, whatever cost can be assumed for a theoretical plant as being necessary for the obtaining of business shall be capitalized. It is submitted that this argument is unsound in theory and in direct conflict with the decisions of this court. It is more than probable that if at the time the master filed his report the Des Moines case had been decided, he would have eliminated entirely the element of going-value as a separate item, which appellees in the original brief have argued should have been done. Whatever may be said as to that proposition, it certainly is contrary to the record to contend that the master found the valuation for going-value of $140,000.

(2.) Appellant's position is also fallacious because of the assumption that the master, by the expression used by him to the effect that it was not clear whether this element of plant value had been paid for out of excess earnings or out of capital, has assumed that there were in fact excess earnings in the past. It is not necessary for the master to have assumed anything with reference to the past. Going-value does not rest on any assumption. The burden is on the utility to show affirmatively that there has been invested in going-value a portion of its capital as distinguished from earnings. The item of going-value if properly allowable for purposes of rate regulation under any circumstances can be allowable only when the owners of the utility can show:

(1.) That capital as distinguished from earnings was expended to obtain business, and (2) that the capital so expended has not been amortized or replaced by excessive earnings. In other words, there is no presumption in favor of going-value and if allowed it must rest on affirmative proof.

3. *Effect of Omitting from Calculations in the Report of the Master the Occupation Tax.*

One thing has taken place since the report of the master and since the decision by the lower court which is of such importance as to require specific comment, namely, a final adjudication by the Supreme Court of the State of Nebraska holding the occupation tax ordinance affecting the 1907, 1908, and 1909 earnings of the company as invalid and unenforcible (City of Lincoln *vs.* Lincoln Gas & Electric Light Company, 100 Nebraska, 182).

We had anticipated that appellant would frankly admit this fact, and therefore have not set out the results in detail in the original brief.

The earnings of the company in 1907 are not in dispute. With gas selling at $1 per M, the occupation tax taken into consideration by the master in computing the net earnings for the company of that year amounted to $4,466. With this allowed as a proper operating expense the master found, without any allowance for increased output had the new rate been put into effect, a return of 5.12 per cent. With this rate of return the sum of $4,463 would be the return on a capital investment of $87,224, or $27,000 more than counsel claim the master erred in arriving at his 1907 valuation. On the valuation found for that year, namely, $426,565, it would increase the percentage of return from 5.12 per cent to 6.14 per cent.

The Supreme Court also reversed the Nebraska District Court on overruling a plea in abatement in an action involv-

ing a subsequent occupation tax ordinance passed December 13, 1909, and remanded the case to the district court to abide the result of the present case in this court. Deducting the amount allowed by the master for occupation tax in 1913, namely, $8,195, would increase the percentage of return on the valuation found for that year from 6.9 per cent to 8.1 per cent. At 6 per cent the amount involved in the occupation tax for 1913 would be a return on a capital investment of $136,583.

These items should be considered, and as to the years 1907, 1908, and 1909 the amount should clearly be eliminated, all questions having been set at rest definitely and conclusively for all time by the Nebraska Supreme Court. Appellees contend, as in the original brief set forth, that the same should be done with the 1913 occupation tax allowance, inasmuch as the payment has not been made, in fact, and the company has resisted its payment in court and the Supreme Court of the State of Nebraska has declined to permit its collection by judgment.

4. *The Sloan & Huddle Appraisement.*

In the course of the trial before the master an item was discovered showing the expenditure of at least the sum of $2,650, in favor of an engineering firm of Madison, Wis. (Printed Rec., pp. 1261-2). Repeated requests were made by the city for the production of the report made by the engineers to the company, for the purpose of ascertaining what their findings were. In spite of the most persistent endeavor on the part of the appellees to obtain the report, or to elicit from witnesses the result and findings, the company declined to give the master the benefit of the appraisement made. Commenting on this matter in the report, the master said:

> "Whether this conduct constituted technically a suppression of evidence, I do not determine, for I have not grounded any presumption or inference

upon it. It has, however, emphasized the need of exercising more than ordinary care to see, where the validity of a law or ordinance depends upon disputed questions of fact, that the dispute be not resolved against a legislation where there is any reasonable doubt about what the truth is."

After the master's report had been filed and after exceptions had been filed thereto, the appellant, through its counsel, filed in the United States District Court, District of Nebraska, Lincoln Division, in this case, an application for an order authorizing and permitting the taking of testimony with respect to the services of Sloan & Huddle and the report submitted by them. This application is set forth on pages 75 and 76 of the printed record, and is as follows:

"*Application of Plaintiff for an Order Permitting Taking of Further Testimony.*

"Filed in United States District Court, District of Nebraska, Lincoln Division, June 14, 1915.

"The Lincoln Gas & Electric Light Company moves the court for an order authorizing and permitting the taking of further testimony in the above-entitled case with respect to the services of Sloan, Huddle, etc., Company, the scope of the employment and services rendered, and report, if any, submitted by said Sloan, Huddle, etc., Company, of Madison, Wisconsin, referred to in the special master's report herein, and submit in support of this motion and application copy of letter written by Halleck F. Rose under date of August 7, 1914, to Mr. Huddle of the above-named firm and the answer thereto from Mr. Huddle of the above firm; the testimony in view of the master's finding is material and could not have been anticipated by complainant from the state of the record.

"LINCOLN GAS & ELECTRIC
LIGHT COMPANY,
"By E. C. STRODE,
"HALLECK F. ROSE,
"*Its Attorneys.*

"Copy.

"AUGUST 7, 1914.

"Mr. Huddle, c/o Engineering Department Wisconsin Railway Commission, Madison, Wis.

"DEAR SIR: You will recall that I met you at Lincoln in the Gas Company's office in connection with the Lincoln Gas & Electric Light Company's preparation for its gas rate suit. In considering with you propriety of calling you as a witness in this rate suit, the question arose as to the embarrassment and disadvantage to which you would be subjected as an expert witness in handling such matters as the cost of developing business, or 'going-value,' overhead allowances, annual depreciation apart from general repairs, and maintenance and the like, upon which the Wisconsin Commission, in whose services you are, had made numerous rulings. You were frank to say that in these matters it would be quite embarrassing to yourself and possibly to the Commission which you served, to express an independent judgment in an important court proceeding that should be variant from the conclusions reached by your commission. In these circumstances we conclude that the proprieties were against calling you at all, although your inventory valuations of the physical properties of the company were understood to be not only just and fair, but altogether satisfactory to the Lincoln Company. The company called Mr. H. L. Lea as a witness on value and has submitted its case. I have never had access to any report of detailed valuations of the company's physical properties made by you, and in the trial no consideration was given to your valuations because they were not qualified by your personal testimony.

"At the argument it was insinuated by the city's attorney that your valuations, in so far as you made any, were unfavorable to the position of the company and favorable to the city, and the fact that the company failed to produce any report from you, should count against it. As counsel for the Lincoln Company, I would greatly appreciate it if — your

data acquired in your Lincoln examination you will state to me, in a letter, the aggregate sum which you found to be the reproductive value of the Lincoln Gas & Electric Light Company's physical properties in use in its gas department, and also what you found to be the present depreciated value of the same properties, stating at the same time that these valuations excluded any allowance for 'going-value' or cost of a perpetual franchise.

"It is my impression that there was no radical difference between you and Mr. Lea on the valuations of the company's physical properties, and if we conclude it is proper to do so, we would like leave to hand your letter in reply to this, to the special master, in order to prevent any suspicion on his part that your failure to testify in the case was due to low valuation of the company's properties, as insinuated, without foundation, by the city's attorney.

"I should appreciate your prompt reply very greatly.

"Very respectfully,

"(Signed) HALLECK F. ROSE.

"Copy.

"Sloan, Huddle, Festel & Freeman, Consulting Engineers, Madison, Wis., Washing Bldg.; Indianapolis, Ind., Hume Mansur Bldg.

"MADISON, August 14, 1914.

"Messrs. Stout, Rose & Wells, 524 National Bank Building, Omaha, Nebraska.

"GENTLEMEN: In accordance with your request we hand you herewith figures showing the cost new and cost less depreciation which we found for the value of the gas property of the Lincoln Gas & Electric Light Company in our appraisal of January, 1913:

	Cost new.	Depreciated value.
1. Land	14,360	14,360
2. Buildings	32,856	25,164
3. Plant equipment	90,239	69,779
4. Holders	91,578	78,678
5. Mains	191,648	165,559
6. Services	56,224	39,919
7. Meters and governors	79,757	69,616
8. General equipment	14,858	12,668
Total, items 1-8	571,520	475,743
9. Engineering, superintendence interest during construction, etc. 15%	85,728	71,361
Total, items 1-9	657,248	547,104
10. Working capital, material and supplies	17,645	16,873
Other than material and supplies	37,354	37,354
Total, items 1-10	712,248	601,331
11. Repaving	159,851	129,171
Total, items 1-11	872,099	730,502
12. Land held but not used	4,100	3,980
Grand total	$876,199	$734,482

"You will note that the figures above include no allowance for going value, good will or franchise value.

"Trusting that this is the information you desire, we are,

"Very truly yours,

"SLOAN, HUDDLE, FEUSTEL & FREEMAN,

"(Signed) Per W. F. HUDDLE."

"R. L. F. M."

In view of the fact that counsel for the company state that the inventory valuations of the physical properties of the company as found by this firm of engineers were "not only just and fair, but altogether satisfactory to the Lincoln Company," it is a matter of interest to compare the valuations made by them with the valuations fixed by the master. The master includes all the physical properties under four items, as follows:

Real estate	$16,250.00
Buildings	29,381.00
Work equipment	179,310.00
Distribution system	351,624.00
Physical plant plus 12½% overhead	$576,565.00

Sloan & Huddle set up their valuation as follows:

Real estate	$14,360.00
Buildings	25,164.00
Plant equipment	69,779.00
Holders	78,678.00
Mains	165,559.00
Services	39,919.00
Meters and governors	69,616.00
General equipment	12,668.00
Physical plant net	$475,743.00
Overhead 15%	71,361.00
Physical plant plus 15% overhead	$547,104.00
Deducting 2½% overhead	11,893.00
Physical plant plus 12½% overhead	$535,211.00
Adding item "land held but not used"	3,980.00
Physical plant, Sloan & Huddle	$539,191.00

It will be seen that not only is the Sloan and Huddle valuation corroborative of the master's findings, but it is undisputed evidence that the master has been more than fair in his findings to the company.

In order to make an absolute comparison between the two valuations there should be deducted from the Sloan & Huddle valuation the item disallowed by the master for services paid for by consumers in the sum of $30,484. Deducting this from the total found by Sloan & Huddle, namely, $539,-191, leaves the findings of Sloan & Huddle of the total physical property, plus 12½% overhead at $508,707, or $67,858 less than the valuation placed upon the same physical properties with the same overhead by the master.

This item was before his honor, Judge Page Morris, when he overruled the exceptions to the master's report.

5. *Rate of Return.*

On the subject of rate of return, appellant, in its brief, at page 44, says:

> "We submit that the finding of the master that a return of 6% would not be confiscatory, is absolutely without justification."

History is a better guide than prophesy where history is available. A large portion of the assets of the company had to be recapitalized on or before August 1, 1917. Under the laws of the State of Nebraska, of recent years, the State Railway Commission has jurisdiction over questions relating to the issuance of stocks and bonds by public utilities. Accordingly, on April 26, 1916, the company, appellant herein, applied for leave to issue and sell $733,400 of its bonds to run to December 1, 1941, at 5 per cent. An order was issued authorizing the sale of these bonds on a basis to net to the company not less than 86 cents on the dollar of the par value and accrued interest. This is at an interest rate of 5.8 per cent. To this is to be added an amortization fund to repay

the par value in 1941, making the capital cost almost exactly 6 per cent per annum. This order of the Railway Commission is to be found in the official 9th Annual Report of the Nebraska State Railway Commission at page 317.

In view of the fact that appellant has cited decisions of the Nebraska State Railway Commission to support its argument for a higher rate, this decision is cited as authority to support the master. It seems evident that the best authority on which to determine what capital requires by way of return in the business in which appellant is engaged is the actual rate paid for capital by the appellant. All of the capital is either in the bond issue authorized by the order cited, or a portion of the same bond issue sold prior to that order drawing 5 per cent interest. What is the use of speculating on hypotheses when facts are available? The question of cost of capital has been settled until the year 1941.

6. *Application of Average Net Revenues for the Years* 1907 *to* 1912, *Inclusive, to an Average of Master's Valuation.*

In commenting on the years intervening between 1907 and 1912, the master in his report says:

> "I do not go into the accounts for the years between 1907 and 1912, as the calculations made by Mr. Lea show beyond question that the net income was for each of these years from 50 per cent to 100 per cent greater than in 1907."

It is apparent that any of these years possess as much evidential value to determine whether the ordinance is or is not confiscatory as the years specifically dealt with. In other words, the record tests the ordinance by the severest test possible by picking out the two lean years and ignoring four fat years. To show the result of this severe test, we submit the following computation:

The gross receipts for the six years as reported by the company amount to $1,481,768. The gross expense for the same years, including all the excessive items pointed out by the master, is $886,615. The receipts stated are on the sale of gas at 1.20 per M cubic feet. Applying the rate fixed by the ordinance reduces the gross receipts by one-sixth and leaves $1,234,807. Deducting the gross expense of $886,615 leaves a net receipt of $348,192. During the first three years the occupation tax question has been eliminated. Assuming, for the sake of argument, that it should be deducted for the three remaining years we find that it amounts to $19,755 on the returns based on the dollar rate. The master allowed a depreciation reserve in 1907 of $10,000 and in 1913 of $12,000. Averaging the depreciation reserve at $11,000 a year the total is $66,000. Deducting this depreciation reserve and occupation tax there is left a net return of $262,437 for six years, or an average annual net return of $43,739. The valuation found by the master in 1913 is $376,565 and in 1907 $436,565. The average valuation is $556,565. Applying the average net return to the average valuation leaves an average rate of return of 7.85% during the entire six years without any allowance for increased output by the reduced rate and without deduction of any improper items of expense either eliminated or criticised by the master. We submit that a legislative rate which over a period of six years averages a rate of return of 7.85% is not only not confiscatory but is a liberal rate. Had the ordinance been complied with, with resulting increased output, and the large expense of this litigation, all of which is now included in the computation saved, the rate of return would beyond question have far exceeded 8%.

7. *The Cry of Bankruptcy.*

Much ado is made over the distress in which the appellant company will find itself if this decision is sustained by this court. It is suggested that an affirmance of the decree of the lower court will leave the company with little or nothing. That same question was before the Nebraska Railway Commission when the question of authorization of a new bond issue was presented and in the same order cited herein the Nebraska Railway Commission finds from evidence adduced by the company that the company had accumulated, and on March 31, 1916, had a surplus in the amount of $703,-555.39, which, according to the testimony, as stated by the Commission, was "surplus earnings over and above the payment of operating expenses, taxes, and interest on fixed charges, which surplus earnings have been accumulated from the operation of the company since 1901." This is such a shock absorber that it is submitted that the distress complained of will never become a reality.

Respectfully submitted,

C. PETRUS PETERSON,
W. M. MORNING,
Attorneys for Appellees.